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M E D I C A L
COMMENTARIES,

FOR THE YEAR 1780;

E X H I B I T I N G

A CONCISE VIEW OF THE LATEST AND MOST
IMPORTANT DISCOVERIES IN MEDICINE
AND MEDICAL PHILOSOPHY.

COLLECTED AND PUBLISHED

B Y

ANDREW DUNCAN, M. D. F. R. & A. S. Ed.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,
AND MEMBER OF THE ROYAL SOCIETIES OF MEDICINE,
OF PARIS, COPENHAGEN, EDINBURGH, &c.

*Neglecta reducit, sparsa colligit, utilia selegit, necessaria
ostendit, sic utile.* BAGLIVI.

THIRD EDITION.

VOLUME SEVENTH.

L O N D O N:

PRINTED FOR CHARLES DILLY,
IN THE POULTRY.

M,DCC,LXXXIII.



The First Edition of this Volume of
MEDICAL COMMENTARIES

Was dedicated to the late ingenious and amiable
DR WILLIAM KEIR, OF LONDON.

With the most sincere Regret for that untimely Event,

Which deprived

The Medical World of one of its brightest Ornaments,

And the Editor of a most valuable Friend,

This third Impression

Is inscribed to his Memory,

By an Admirer of his Abilities and Virtues,

ANDREW DUNCAN.

Beneficiis enim humana vita consistit et concordia; nec terrore sed
mutuo amore in foedus auxiliumque commune constringitur.

SENECA.

Mihi quanquam est subito ereptus, vivit tamen: Virtutem enim
illius viri semper amavi, quæ non extincta est.

CICERO, *De Amicitia.*



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P R E F A C E.

AFTER six volumes of the Edinburgh Medical Commentaries have been already published, and when it is intended that they shall still be continued on the same plan as formerly, it may seem strange that any change should have been made on the Title of the Work. It cannot be alleged, that any circumstance has occurred which renders this change necessary. But it will perhaps be reckoned a sufficient apology for this alteration, that I have been induced to it by reasons with which I reckon it needless to trouble the reader.—Every one must be sensible, that the merit of the work can neither be increased nor diminished by the Title.

When, however, I am now to take upon myself, what has hitherto been presented to the Public as the work of a Society; it may naturally be presumed, that the abilities of an individual will be found unequal to the undertaking. To remove this apprehension, I may observe, that the compilation of this work will not hereafter be more dependent on my exertions than it has already been. I shall still be regularly aided by some Gentlemen, whose reputation can receive no addition
from

from drawing up a proper analysis of the works of others. And I flatter myself that those advantages which the medical practitioner may derive from it, will suffer no diminution on the present change.

In a work of this nature, it cannot be supposed that every article will be equally suited to the taste of every reader. Discoveries, with respect to their importance, will be very differently estimated by different readers. There is, however, no medical practitioner, duly anxious to afford the utmost possible aid to his patient, who will not wish to receive a proper account of every discovery that is even alleged to be made. And the introduction of articles, which by some may be reckoned but of little importance, is at least a less culpable error, than the omission of improvements which in the hands of any one have been supposed productive of advantages, or subservient to utility. If, therefore, sufficient attention be bestowed in giving an account of every discovery, whether real or imaginary, the intrinsic value of the work must depend, not upon the merit of the compiler, but of the original author.

While, however, as being merely the compiler of this work, I thus relinquish the praise to which it may be entitled from its utility ;

I must still acknowledge myself answerable for its imperfections. But I flatter myself, that every reader will do me the justice to believe, that any omissions which may be detected have in no case proceeded from want of candour, but solely from want of information. And I am even tempted to think, that from a careful perusal of the former volumes, the attentive reader will either find a proper account of all the more important discoveries which have been published since the commencement of this work, or be directed to the source from whence the most full information may be derived.

The same industry in the collection of materials calculated either to improve the healing art, or to gratify curiosity, which has hitherto supported the credit and extended the sale of this periodical publication, will still, I trust, give it some claim to the favour of the Public. And unless we suppose, either that medicine is incapable of improvement, or that the present age is incapable of discovery, every honest and attentive practitioner, who has not the most ready access to the fullest informations from other channels, will be anxious to avail himself of those advantages which it affords.

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But upon this subject I may, perhaps, even go one step farther, and allege, that it is not merely their duty to encourage, but to aid this work. An undertaking which has for its object the diffusing that knowledge which is calculated for alleviating the calamities of mankind, naturally lays claim to the assistance of every humane mind; and there are very few medical practitioners, to whom facts do not frequently occur, which, while they afford improvement to themselves, might also be instructive to others. How much then is it to be regretted, that these useful lessons should either be confined entirely to them, or extended only to the narrow circle of their own acquaintance? A reluctance to any public appearance, or the hurry of other engagements, is but an unsatisfactory apology for withholding from the public what might relieve the distress even of a single individual. From these considerations, then, as long as medicine continues to be practised by liberal minds, or on liberal principles, there is reason to believe, that improvements will daily be made, and freely communicated.

Of these, there are many which cannot be properly published through the channel either of this, or of any other periodical work. From
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the limits within which it is necessary to confine this work, original observations, which do not extend to any great length, can alone be introduced into it. But under the section of Medical News, such an account, even of the longest papers, as will afford acceptable information to the reader, may with great propriety have a place. And from this method of announcing discoveries, the particular date at which they were made will be certainly fixed.—Thus disagreeable disputes, respecting the priority of discovery, may be avoided.

While, however, there are many ingenious and useful Essays, which can only have a place in this work, either on the footing now mentioned, or in the form of an analysis, after publication through other channels; there are other interesting remarks, which may be brought within such limits, as to be introduced into these Commentaries in their original form. From the experience of several years, it has been found, that interesting observations of this nature have not been wanting; and any one who considers the high and established reputation of many of those Gentlemen whose observations have enriched this department in former numbers of the Medical Commentaries, must be sensible, that they have been principally actuated by a zeal for medical

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cal improvement. This, however, can in no degree detract from the favour they have conferred on the Collector of this work, by adding to the value of the publication.

While I thus return them my most sincere acknowledgments for the aid which I have formerly received, I hope it will be unnecessary to solicit future assistance. The same benevolent spirit must still prompt them to wish, that their observations may be as extensively useful as possible; and this motive must operate no less powerfully with many others, of the benefit of whose judicious remarks the medical world has hitherto been totally deprived. Hence I am induced to hope, that the change which has been made in the Title of this work, will not diminish the assistance with which I shall be favoured from industrious and discerning practitioners. And I have only to add, that while by enriching these Commentaries, they shall have the satisfaction of having contributed to the improvement of the healing art, it will not, I hope, diminish the compensation for their labours, which this reflection may afford them, that they have at the same time conferred an obligation on their

Most obedient Servant,

EDIN. 1st Jan.
1780.

ANDREW DUNCAN.

M E D I C A L C O M M E N T A R I E S.

S E C T. I.

An Account of New Books.

I.

Dissertatio Inauguralis, de Angina Polyposa sive Membranacea, quam Consensu gratiosæ Facultatis Medicæ defendit Christianus Fredericus Michaelis, Goettingensis. 12mo. Argentorati.

BY the term *Angina polyposa* or *membranacea*, is here meant that disease, which in Britain is now universally known by the name of Croup.

This disorder, it has been commonly supposed, was never, till of late years, either properly understood, or even so much as mentioned in the writings of physicians. Although late

writers, however, and particularly Dr Home, have set the doctrine with respect to it in a much more distinct point of view, yet that it was very well known, and even described by practitioners at a more early period, our author thinks is exceedingly evident.

Thus Tulpius, he remarks, seems to have been well acquainted with it.—After him Bon-tius, and several other writers, gave histories of the disease; and at last, about the year 1749, a very accurate account was published of it by an Italian of the name of Ghisi, who, in the course of his practice, had met with the Croup as an epidemic.

Dr Michaelis, after enumerating the different authors who have wrote upon the disorder since that period, proceeds to give a detail of the different symptoms. Having done this in a very accurate manner, he then favours us with the accounts given by various writers, of such appearances as in cases of Croup have been observed on dissection after death.

In all of these, the formation of a preternatural membranaceous substance in the larynx or trachea was detected; and as from various circumstances this membrane appears evidently to be of the polypous kind, our author has
from

from this consideration, we are told, ventured to give the disease the designation he has here applied to it.

There are two species of polypus, our author observes; in the one, an evident circulation is carried on, as is usually the case in those fleshy excrescences observed in the nose and uterus. The other again is perfectly inorganic, examples of which are daily met with in those polypous concretions so frequent in the cavities of the heart and large blood-vessels.

Of this last species is that tough membranous substance, which in cases of Croup is found to line the trachea. It takes its origin, our author observes, from an effusion and inspissation of coagulable lymph, and is not of the mucous kind, as by some has been asserted. That this is the case, he remarks, is evident from the formation of similar substances in situations where mucous glands have never been supposed to exist; membranes of the very same nature being frequently observed on the surface of the pleura, and other viscera, when in a state of inflammation.

By Wilcke and other authors who have wrote on this disease, the membrane now under consideration has been supposed to be no-

thing farther than the natural villous covering of the trachea, somewhat altered in its appearance by disease. The arguments mentioned by our author, in refutation of this opinion, are, that this membrane is commonly found much more firm and thick than it is probable the villous coat of the trachea could ever become. More pain, he thinks, would occur than is ever observed in cases of Croup, if the lining membrane of the trachea was so much affected; and he farther remarks, that the natural villous coat of that organ can be distinctly observed, after this membranous substance has been separated from it.

Our author now proceeds to the diagnosis of Croup, and after accurately pointing out the several symptoms by which it may be distinguished from other affections of the trachea and adjacent parts, he then goes on to consider the causes and prognosis of the disorder. Whatever tends to weaken, and produce any degree of irritation in the lungs, so as to occasion a preternatural secretion of fluids into that organ, may in general, we are told, be considered as predisposing causes of Croup; hence such children as have lately laboured under measles, chincough, and catarrhal affections, are

are particularly liable to be seized ; and hence low marshy situations are more especially favourable to its production.

In the treatment of this disorder, blood-letting is recommended as a principal remedy ; the quantity to be taken away must be determined by the pulse, age, and habit of the patient, and other similar circumstances.—Although, however, to a certain quantity, especially in the beginning of the disease, blood-letting is always necessary, yet we are cautioned against carrying it very far, so as to debilitate the constitution much, a circumstance which very readily occurs from large evacuations of blood in the advanced stages of the disease.

The application of leeches to the neck is recommended particularly in very young children, with whom they produce, we are told, all the advantages to be obtained from general blood-letting, without being attended with any of its bad consequences.—When leeches cannot be procured, topical scarifications are recommended upon the authority of *Ghisi*.

Gentle laxatives are advised, so far as are necessary for keeping the belly regular ; and considerable advantages, we are told, are to

be obtained from mild sudorifics, such as spiritus mindereri, and weak solutions of tartar emetic.—In the commencement of the disorder the *pediluvium* is said to be very useful.

Blisters are here recommended as a very necessary remedy; they sometimes answer the purpose when applied behind the ears, or to the nape of the neck; but the disorder being seated in the trachea, our author thinks they should always be applied to the fore-part of the neck, as near to the seat of the complaint as possible. With a view to relax and lubricate the parts affected, it has been recommended by *Ghisi* to swallow, frequently, small quantities of oil of sweet almonds. As astringents are now known, however, to be more effectual applications than emollients, in every case of inflammation, our Author would therefore recommend the frequent use of cold water by way of drink, in preference to any kind of oil.

Expectorants, Dr Michaelis observes, are of two kinds: *viz.* such as are taken internally; and those which, from their mode of application, may be considered as external medicines.—Of the former kind are oxymel of squills, colchicum, gum ammoniac, &c. And
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of the latter are, different kinds of warm vapour, but more particularly that of vinegar, which, by different authors, has been recommended as a most effectual expectorant.

Emetics, by emptying the stomach of that great quantity of fordes with which in this disease it is apt to be overloaded, are frequently of use; and instances, we are told, have occurred, of the preternatural membrane of the trachea being separated and evacuated by the action of these remedies.—It is not, however, till the disease is somewhat advanced, that emetics are here recommended. On the contrary, indeed, we are told, that in the beginning of the disorder they are apt to do mischief, by adding to the symptoms of inflammation, already perhaps advanced a considerable length.

When, notwithstanding the use of emetics, and every other remedy, no relief is obtained, and the disease still goes on, we are advised, as the only mode of cure, to have recourse to bronchotomy.

The idea of introducing bronchotomy as a remedy in Croup has been ridiculed, our author observes, by different writers; but from various circumstances, he is persuaded, that

on many occasions it might be had recourse to with advantage.

The danger of wounding the blood-vessels of the thymus, and of the thyroid gland, has been stated as an objection to this operation ; but if the operator understands rightly the anatomy of the parts, the substance of these glands may be easily avoided ; and in case a blood-vessel of consequence should happen to be wounded, the discharge of blood may be easily stopped by the aid of a needle and ligature.

The principal advantage to be obtained from this operation, is the opportunity it would afford for extracting the præternatural membrane of the trachea ; and as by dissection it is commonly found to be very easily separated from the internal surface of that organ, no great difficulty, our author thinks, would from this circumstance occur to the operation.

But although one material advantage, to be derived from bronchotomy in these instances, is the extraction of this membrane, yet on another account, our author remarks, this operation should be always had recourse to wherever an immediate suffocation is to be dreaded. He
observes,

observes, that in many instances, it is not the quantity of foreign matter contained in the trachea which produces the symptoms of suffocation, but merely a spasmodic affection of the parts about the glottis ; and when that happens to be the case, nothing, he remarks, can so probably save the life of the patient, as the operation here recommended.

From the uncertainty of success from bronchotomy in cases of Croup, and from the tremendous appearance it makes to parents and other relations, it has been said by some authors, that if it ever is put in practice, it should be only in the very last stage of the disorder. Our author, however, is of a different opinion ; and advises it to be had recourse to even early in the disease, when, from the failure of every other remedy, there is reason to apprehend any considerable degree of danger.

The dissertation before us, is concluded with an account of various cases of Croup ; not only from such authors as have written expressly on the disease, but from the proper experience of our author himself, and some of his friends ; and at the end of all, we are favoured with different meteorological tables, containing

ing the state of the weather at Goettingen, and other places, at the time the Croup happened to prevail there.

II.

Cases and Remarks in Surgery ; to which is subjoined, an Appendix, containing the Method of curing the Bronchocele in Coventry.—By B. Wilmer, Surgeon. 8vo. London.

THE first paper in the collection before us, contains observations on strangulated herniæ.

Mr Wilmer having embraced the new doctrine concerning the impropriety of warm applications in cases of hernia, the intention of this paper is to point out, in all such instances, the superior advantages to be obtained from the application of cold ; and three cases are here inserted, in which the application of cold vinegar to hernial swellings, seemed to have a considerable influence, by affecting the reduction of their contents, when in all probability the operation for the bubonocoele would otherwise have been necessary.

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The next case of importance contains the history of a patient who died of the hydrocephalus internus ; with whom mercury was used without producing any good effect. Mr Wilmer was called in about the eighth day of the disease, and finding the symptoms very strongly marked, had immediate recourse to mercury.—Calomel being given in frequent small doses, while at the same time the mercurial ointment was applied outwardly, a salivation was thereby induced in the course of twenty-four hours. The disease, however, continued to gain ground, the patient became daily weaker, and died on the seventh day from the commencement of the mercurial course.

A young woman, in a fit of despondency, having cut her throat; our author was sent for to her assistance, when the whole annular substance of the trachea was found divided just beneath the thyroid cartilage ; a great deal of blood was lost, and the patient was totally incapable of speaking.

By two stitches of the interrupted suture, assisted by slips of adhesive plaster, the sides of the wound of the integuments were brought into contact. And notwithstanding the occurrence

rence of a troublesome cough, every thing went favourably on till the fourth week, when the external wound being almost healed, the patient was seized with a difficulty of breathing, attended with a sense of suffocation ; and after continuance and increase of these symptoms, she died in the space of twenty-four hours from their first appearance.

On dissection after death, the internal wound was found so much contracted that there was merely room for the introduction of a probe, which passed very freely into the trachea, downwards.—The cicatrix adhered firmly to the *inferior* part of the divided trachea ; but the superior portion had retracted half an inch, and its cavity was so much filled by granulations of flesh, that there did not appear room for a sufficient quantity of air to pass through it to dilate the lungs ; so that when the external wound became so small that the lungs could not be supplied with air from that source, a difficulty of breathing commenced, and at length the patient was suffocated by the very efforts attempted by nature for healing the divided parts.

Some time before this case occurred, our author was desired by Mr Harrold, a neighbour-

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ing furgeon, to see a patient who he had cut into the cavity of the trachea between the crycoid and thyroid cartilages. In this case, as in the preceding, the integuments only were united by ligature; the patient in every respect seemed to be doing well till the fifth night, when he died suddenly.

On examining the body, the immediate cause of death appeared to have depended on the rupture of a small artery, the blood from which, not having a ready external passage, had found its way into the trachea, and there formed a coagulum, which plugged up the cavity of the windpipe, and suffocated the patient, by preventing the access of air into the lungs.—From these cases our author states it as a query, whether the sewing up the windpipe, and leaving the external wound open, in both or either of them, would have afforded a better chance of recovery.

In the case of a woman seized with locked jaw and opisthotonos, as nothing could be got into the stomach from a convulsive motion in the muscles of the thorax being induced by every attempt to swallow, it was thought necessary to have recourse to glysters, both with

a view to the exhibition of medicines and of nourishment.

Eight ounces of mutton-broth were injected three times a-day, and every eight hours a glyster, consisting of six ounces of water, and two drams of laudanum.—The patient remained four days in the same state, during which time she did not swallow any thing. The quantity of laudanum was increased in the glysters, and the rigid muscles of the face were well rubbed with camphorated oil.

On the fifth day, she could speak and open her mouth a little; on the seventh, she could swallow liquids.—She was then directed to take two drams of laudanum three times a-day by the mouth.—She every day became better, and in a short time was almost as well as usual; but it was six weeks before the muscles of the neck and back had recovered their proper flexibility.

Sir John Pringle having, in his Treatise on Diseases of the Army, recommended the application of blisters to the pained part of the abdomen, in cases of ileus, our author was thereby induced to make trial of their effects in that disorder. Three cases of this nature are here related, in which blisters proved effectual
after

after all the ordinary remedies had been had recourse to in vain. We shall here give a more particular account of one of them.

On the third of February 1774, Mr Wilmer was desired to see a young man who for two days had been attended by an apothecary. The symptoms were, a constant and acute pain below the navel, continual vomiting, hic-cough, languid pulse, costiveness, and a cadaverous countenance. He had been bled repeatedly ; glysters, fomentations, opiates, and a variety of solutive medicines, had been administered, but all without any kind of relief.

A large blistering plaster, with a perforation in its centre, was now ordered to be applied round the navel, and no medicines were then prescribed, that the result might be more certainly known.

Soon after the patient felt any pain from the blister, he enquired for the close-stool, and had an evacuation, by which he was much relieved. The pain of the abdomen gradually abated, and in a few days he was restored to health. The effects of blisters in the other two cases related by our author were equally remarkable with the above. After having given some remarks upon the treatment of compound fractures

fractures and dislocations, our author concludes the publication with an account of the method of curing the bronchocele, as practised at Coventry.

The bronchocele, he observes, is a preternatural enlargement of the thyroid gland ; and as from different circumstances every attempt to extirpate tumours of this nature must be hazardous, the cure, he thinks, can only be expected from the use of internal medicines, no topical application being sufficiently active for producing resolution.

The medicine which at Coventry has acquired so much reputation for the cure of this disease, owes its origin, we are here informed, to Doctor Bate, who, a considerable time ago, practised as physician at that place. As Mr Wilmer vouches for the effects of the remedy, at least in young female patients, we shall here give our readers his account of it at some length. In men, and in all patients past the meridian of life, such effects, he observes, are not to be expected from it as when young women are the subjects of the disease.

There are two receipts by which the medicine is prepared ; one of them is for certain the original prescription of Doctor Bate.

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Which of the two came from him, however, our author cannot determine; but they are both, he remarks, equally efficacious. The following are the contents of each :

N U M B E R I.

The day after the moon hath been in the full, the patient is to take a vomit—on the succeeding day, a purge is to be administered—on the third night, at going to bed, one of the following boluses is to be placed in the mouth, under the tongue, and, being suffered to dissolve gradually, is to be swallowed. This bolus is to be repeated the six succeeding nights.

Take Calcined sponge

Cork calcined

Pumice-stone burnt, of each ten grains.

To be separately powdered, and made into a bolus with syrup, honey, or mucilage.

On each of the seven days that the patient takes the preceding bolus, the following powder is to be administered in the forenoon in any proper vehicle.

R_x. Flor. cham. pulv.

Rad. gentian. pulv.

Sum. centaur. min. pulv. aa gr. v. m.

On the eighth day the purge is to be repeated. In the wane of the succeeding month the same process is to be entered into, and repeated a third time, unless the disease be cured before.—The vomit is only to be taken before the first course of medicines.

N U M B E R II.

R_x. Spongiæ calcinatæ dr. ff.

Mellis q. s. pro bolo.

The P R E P A R A T I O N.

Tie the best sponge up hard with wet pack thread, and calcine it in a crucible. The boluses are to be used as those of the former receipt; the bitter powders are to be taken and the same directions with regard to evacuations observed in every respect as in No.

A very eminent surgeon, who has had many opportunities of seeing the good effects of both these preparations, assures our author

that

that either of them will succeed with more certainty if the patient takes a vomit and purge during the *increase* of the moon.

The calcined sponge for either of these preparations ought to be powdered in a glass or marble mortar. If a brass one is used, the salts of the sponge attract so much of the metal as to acquire an emetic property.

III.

A Medical Commentary on Fixed Air. By

Matthew Dobson, M. D. F. R. S. Chester.

8vo.

THE subject here treated of by our ingenious author, we find divided into ten different sections.

SECT. I. Contains observations on the different methods of procuring and administering fixed air.

II. On its sensible effects in health taken internally.

III. On its effects in diseases of the putrid class.

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IV. On

IV. On putrefaction, the putrid effluvium, and the means of correcting the putrid effluvium.

V. On the effects of fixed air, on the putrefactive process, and on the putrid effluvium.

VI. On the use of fixed air in cachexies and phagedenic ulcers.

VII. In some diseases of the stomach.

VIII. In the stone and gravel.

IX. On the disposition to the stone in the cyder counties, compared with some other parts of England.

X. On the noxious effects of fixed air.

Dr Dobson, after enumerating the various methods suggested by different writers for procuring and administering fixed air, concludes the first section with some experiments for determining the different proportions of air contained in chalk, and in the fixed and volatile alkalies; these being the substances most commonly directed for the supply of fixed air.

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E X P E R I M E N T I.

Two drams of powdered and well dried chalk were put into a twenty ounce phial, and to this were added three ounces of water; the phial, chalk, and water, weighed exactly nine ounces, six drams, and one scruple.—As much of the acid of vitriol, diluted with water, was then added, as was sufficient to separate the whole of the fixed air from the chalk, which was effected by one ounce, one scruple, and twelve grains of the diluted acid.—The phial, with its contents, now weighed ten ounces, six drams, and ten grains.—Two scruples therefore, and two grains of fixed air, had been separated from this quantity of chalk by the addition of the acid.

E X P E R I M E N T II.

Two drams of the dry and pure salt of tartar, managed as in the preceding Experiment, yielded one scruple and eight grains of fixed air.—The result of this experiment corresponds, our author observes, with a similar one made by Dr Black, as related in the second volume of the Physical and Literary Essays of Edinburgh.

E X P E R I M E N T III.

Two drams of volatile fal ammoniac, carefully treated as in the first Experiment, gave out two scruples and eight grains of fixed air.

It appears, therefore, from these Experiments, that two drams of each of these substances contain the following proportions of fixed air :

Volatile fal ammoniac	-	48 grains.
Chalk	-	42 grains.
Salt of tartar	-	28 grains.

In the above Experiments, some small portion of water, or other heterogeneous matter, might have arisen together with the fixed air, had not care been taken to prevent it, by using a very tall phial, which was kept slightly corked during the effervescence.

In Section second, our author remarks, that pyrmont, and other mineral waters, strongly impregnated with fixed air, when drank in their full vigour as immediately drawn from the spring, have a very sensible effect on the brain and nervous system. They raise the spirits, diffuse an agreeable glow through the whole body, quicken the pulse, and often excite a vertigo and temporary intoxication.

To

To determine whether fixed air, as procured by art for medicinal purposes, produces similar effects, different experiments were tried; and the effects observed to result from it were exactly such as those found to proceed from the internal use of pyrmont and other water, of the same nature.

In the third Section, we are favoured with observations on the effects of fixed air in diseases of the putrid class.

Four cases of putrid fever are related, in which the internal exhibition of fixed air produced, in a very short space of time, the removal of very alarming symptoms; and in all of them complete cures were at last effected. The medicine was here conveyed to the stomach by a frequent repetition of saline draughts in the state of effervescence; a more expeditious mode of applying it, our author remarks, than in the form of glysters.

In the secondary fever of the small-pox, which is often accompanied with symptoms of the putrid kind, fixed air is recommended as a medicine of singular efficacy; and we are here favoured with a case of this kind, selected, we are told, from a number of others, in which fixed air was given with advantage.

Three other cases of this nature are afterwards related ; two of which were communicated by Dr Haygarth, and the other by Mr Sandback, in which some very putrid symptoms appeared in the confluent small-pox, which were effectually checked by the internal exhibition of fixed air.

In a case of gangrene of the leg and thigh, communicated by Dr Percival, fixed air given internally, was the apparent means of a cure being obtained. We are afterwards favoured with some remarks on the utility of the same remedy in the putrid ulcerous sore throat.

In cases of pulmonary consumptions, our author acknowledges that he never met with a single instance in which the patient recovered by the use of this remedy. But in cases of abscess in the lungs, whether from peripneumony or accidental injury, he has known very salutary effects produced by it ; and two cases of this nature are here related, in which all the symptoms had become very alarming, and which were both cured by the inspiration of fixed air, from an effervescent mixture, together with the internal exhibition of saline effervescent draughts.

Our

Our author, when speaking of the effects of fixed air in cases of sea-scurvy, says, that many seamen affected with this disorder, on coming into port, have fallen under his care, and have been cured by the effervescing draughts; or by proper doses of Mr Bewly's mephitic julep washed down with lemonade.

In Section fourth, we are favoured with several ingenious remarks on putrefaction, the putrid effluvium, and on the means of correcting the putrid effluvium. And in the fifth Section are related, some experiments for determining the effects of fixed air on the putrefactive process, and on the putrid effluvium.

From these experiments Dr Dobson concludes, that a distinction ought to be made between putrefaction and the product of putrefaction; and that fixed air checks, or puts a stop to the putrefactive fermentation, but does not meliorate or sweeten the putrid effluvium, the product of putrefaction.—Hence we see, says the Doctor, why lime-kilns in the neighbourhood of populous cities, or large vessels of fermenting liquors placed in rooms filled with noxious air, can have no effect in meliorating this, unless the fixed air which is
thrown

thrown out come in contact with the putrefying body. It may then indeed, he remarks, check the putrid fermentation, and thus be of use, by cutting off the source whence the putrid effluvium is derived.

In Section sixth, where our author treats of the use of fixed air in cachexies and phagedenic ulcers, he remarks, that in genuine and confirmed cancers he never found any sensible progress towards a cure, or any considerable benefit, farther than a mitigation of the pain, from the use of this remedy. But in old, spreading, ill-conditioned ulcers, he has employed it with obvious advantage.— In many instances it has relieved the pain, brought on a more favourable digestion, and, in some, it has effected a complete cure.

From considering fixed air both as a tonic and as a corrector of acrimony, Dr Dobson was induced to give it to several scrophulous patients. In some it afforded sensible relief, but in none did it ever effect a cure. In other cachexies, however, he remarks, it has been more successfully administered; and in confirmation of this, two cases are here related: one of an obstinate jaundice, and the other of a tedious eruption upon the skin;
in

in both of which, complete cures were obtained by the internal exhibition of fixed air.

In Section seventh, we are favoured with several cases of disorders of the stomach, in which the use of fixed air was attended with very evident advantages. In cases of debility and morbid irritability of the stomach, fixed air given in the form of effervescing draughts, produced the same good effects as are usually obtained in such disorders from mineral waters containing fixed air.

In Section eighth, which contains remarks on the use of fixed air in the stone and gravel, Dr Dobson observes, that the use of this remedy in these disorders, was first suggested, by its having been proved by the Hon. Henry Cavendish, that calcareous earths are made soluble in water, by being united with more than their natural proportion of fixed air.

This fact, with respect to the solubility of calcareous earths in fluids impregnated with fixed air, being properly ascertained, the next point to be determined was, whether this fluid may be transmitted by the course of the circulation, so as to enter the bladder unchanged,

ed, and whether the urine would be thus sufficiently medicated with fixed air.

That the fixed air of fluids taken into the stomach, passes in the course of circulation into the bladder, is now, our author remarks, pretty clearly demonstrated; Dr Priestley having more than once expelled from a quantity of fresh made urine, by means of heat, more than one-fifth of its bulk of pure fixed air. The observations too of practical writers concerning the efficacy of those mineral waters, malt-liquor, and other fluids which contain great proportions of fixed air, in calculous cases, is a farther argument, he thinks, in favour of this doctrine.

After enumerating a variety of facts in favour of fixed air, as a preservative, a palliative, or a solvent of the stone, Dr Dobson briefly mentions the result of his own experience, concerning the use of this fluid in diseases of the urinary passages in general, whether gravel, stone, abscess, or erosion.

In two cases of abscess in the kidney, accompanied with great pain, hectic fever, wasting, and discharge of pus, the good effects of fixed air were evident in alleviating the pains, abating the hectic, and forwarding
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the cure. In some few instances of erosion, he has likewise experienced very good effects from fixed air. In the gravel he has met with many proofs of its efficacy. But with respect to the stone, he has had very little, and he has not had any decisive experience of the effects of fixed air in that disorder. It may be asked, he says, whether any one case has yet occurred, in which a stone in the bladder has been totally dissolved by the effects of this remedy? No such case, our author apprehends, has hitherto occurred; the noted patient of Dr Hulme, whose stone was supposed to have been dissolved, being lately dead, when, on dissection, a great many *small calculi* were found in the bladder, with several others broken into very small fragments. These calculi having all rough surfaces, with various ridges, or eminent lines, running upon them, made it supposed indeed that a partial solution had begun to take place. The immediate cause of this patient's death, we are informed, was found to be an obstruction formed by an enlargement of the prostate gland.

With respect to the method of administering fixed air in cases of gravel, our author
does

does not approve so much of injecting it into the bladder, as throwing it into the general mass of blood, by means of draughts taken into the stomach in the state of effervescence. By such draughts being frequently exhibited, while at the same time the patient's common drink is ordered to be mephitic water, wort sweetened with honey, mead, or sound malt-liquor, the urine, we are told, may be well impregnated with a constant and copious supply of fixed air. An impregnation will thus be obtained even to a higher degree, our author supposes, than by immediately injecting the mephitic water into the bladder.

In Section ninth, which contains remarks on the disposition to the stone in the cyder countries, compared with some other parts of England, Dr Dobson endeavours to ascertain this point by comparing the number of patients cut for the stone in the different hospitals of the districts to which he applied for information, with the whole number of both in and out patients. We cannot here pretend to give the particular report from every hospital as related by Dr Dobson; but the following general conclusion will convey to
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our readers a tolerable exact idea of our author's intelligence upon this point. In the Gloucester, Worcester, Hereford, and Exeter hospitals, 121 patients have been cut for the stone out of 47,646, or 1 in 394. The report of the north-east part of England, including the hospitals of Newcastle, York, Leeds and Manchester, shows, that 228 have been cut out of 95,770 patients, or 1 in 420. The report of the north-west part of England, comprehending the hospitals of Liverpool, Chester, Shrewsbury, and the whole of North Wales, mentions only 16 patients who have undergone the operation out of 51,574, or 1 in 3,223. The stone therefore is a more common disease, our author concludes, in the cyder district, than in North Wales and the North of England. And this inquiry, he observes, confirms the general opinion, that those liquors which are hard, and contain a crude acid, are prejudicial to constitutions which have a disposition to the stone; the cyder drank by the poorer people in the cyder countries being weak, and containing little fixed air, but a large proportion of crude acid, the product of a partial acetous fermentation.

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From the stone being a disease which prevails much more in certain districts than in others, and from our not being able to account for this by any circumstance hitherto discovered, respecting either food, drink, or situation, our author thinks, that it may sometimes be considered as a disease of the constitution, being rather an animal production than proceeding from stony matter introduced *ab extra*, and afterwards collected and concreted in the kidneys and bladder; and this opinion he very ingeniously supports by a number of arguments, both from facts and analogy.

In the tenth and last Section, which treats of the noxious effects of fixed air, Dr Dobson endeavours to support and corroborate an opinion he some time ago advanced, with respect to the cause of death in such animals as are killed by the air in the Grotto di Cani, in the caverns of Schwalbach and Pyrmont, or by the vapours of burning charcoal. In such instances it has been the opinion of Hoffman, Hales, Morgagni and others, that death is produced by suffocation; but Dr Dobson supposes, that it rather occurs from the vital principle itself being immediately extinguished

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ed by the action of these vapours on the brain and nervous system. Suffocation, or the taking away life by a stoppage of respiration, is not, he observes, an instantaneous, but a gradual process; whereas in those animals which are killed by being immersed in fixed air, death is immediate and without struggle. Even flies and other insects which have no lungs, and consequently cannot suffer by suffocation, instantly drop down motionless. Two instances are afterwards related, of the fatal effects produced upon animal life by that species of fixed air which is continually emitted in large quantities from lime-kilns.

IV.

Dissertatio Medica Inauguralis de Chirurgia Infusoria renovanda.—*Auctore* Joanne Maria Regnaudot. 8vo. Lugduni Batavorum.

BY the term *chirurgia infusoria* is here meant that operation by which different kinds of liquids may be thrown immediately into the course of circulation, by being injected at an orifice made in a vein. By this operation, which was first put in practice about the middle of the last century, it was expected by practitioners, that as the different articles made use of would in this way be brought more quickly into the course of circulation, so their effects would be more immediate and active. But this new innovation in practice not being carried on with sufficient prudence and caution, and disagreeable consequences having occurred from it, it was accordingly in a short time after its introduction laid entirely aside.

Dr Regnaudot, after enumerating a number of authors who have written upon this subject, and having mentioned the different substances that were commonly used for injecting,

jecting, proceeds to recapitulate some experiments instituted by himself.

A man in the island of Guadaloupe, aged about eighteen or twenty years, who had a long time laboured under that species of *herpes* termed by the natives *dartres rouges*, and which is always a certain forerunner of *lepra*, at last applied to our author for his assistance.

Every remedy which had been tried having produced no good effect, and the poor man being, from the nature of his disorder, almost entirely secluded from every intercourse with other people, our author was thereby induced to make trial of the practice now under consideration.

EXPERIMENT I.

On the 27th January 1770, half a spoonful of a weak infusion of senna leaves was injected at an opening made in the Median vein of the left arm.—No other inconvenience was perceived to ensue than a slight headache.

The quantity of infusion here injected was intended to have been more considerable; but this we are informed was prevented by the

rising of a small thrombus or tumour round the orifice in the vein.

EXPERIMENT II.

January 28th ; about an ounce of the same infusion was this day injected.—In the space of half an hour or thereby, the patient was seized with a violent shivering and frequent vomitings. To these succeeded heat, frequent stools, and the feverish fit continued a considerable part of the day.

EXPERIMENT III.

Three ounces of an infusion containing two drams of *lignum guaiaci* and two scruples of *ichthyocolla*, were injected a little before eight in the morning on the 29th of January. At this time the pulse was natural, and the skin soft. In the space of half an hour the patient was seized with a violent shivering, severe gripes, had two stools, and the feverish fit continued till five o'clock in the evening.

EXPERIMENT IV.

As the acrimony of the liquors injected in the preceding experiments might be supposed

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to be in some measure the cause of the febrile symptoms, a solution of a milder nature was therefore made the subject of the present trial. —Two drams of gum arabic being dissolved in three ounces of water, the solution was injected at eight o'clock in the morning. About nine o'clock the shivering commenced, and the pulse became small and extremely frequent. The fever continued a considerable part of the following night; the patient had three stools; the heat was not so intense as in the preceding experiments, but the sweat which succeeded was exceedingly copious.

The success from these trials, in removing the patient's disorder, being very uncertain, while on the contrary, the inconveniences produced by them were considerable; our author was thereby prevented from any further prosecution of the experiments. The conclusions, however, which he forms from these above related are very ingenious, and we shall here present our readers with some of them.

1st, These experiments, our author thinks, clearly prove, that irritation may be produced in the heart, and even large blood-vessels, by

the introduction of an heterogeneous matter to the general mass of blood.

2d, They likewise shew, that a febrile paroxysm may thereby be raised at pleasure.

3d, That such febrile affections may be induced with equal certainty, by the introduction of the blindest materials, as by those of a much more stimulating nature ; as particularly appears from the last experiment, with a solution of gum arabic.

4th, That every injection, however mild, will act as a purgative.

5th, That every species of purgative used in this way, will act as an emetic. This conclusion, he observes, is confirmed by different experiments of this kind, recorded in some papers in the Philosophical Transactions, and other publications on this subject.

6th, That the space of half an hour is required, for the production of such symptoms as arise from remedies used in this manner.

The heart our author considers as an organ of sense, equally distinct and certain as those of sight and hearing ; and upon this principle he accounts for and explains all the preceding conclusions.

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The blood being destined by nature as a stimulus to the heart, it follows therefore, our author remarks, that a certain harmony or sympathy must subsist between the heart as the sentient organ, and the blood as the acting principle. So long as this natural harmony subsists between the blood and its sensorium, so long will the former produce that degree of irritability in the latter, which is necessary for the production of that equable and moderate re-action requisite for carrying on the circulation of the blood in a state of health. But whenever any heterogeneous matter is introduced to the circulation, whether by a depraved digestion, by absorption of morbid miasmata, or by a retention of such excrementitious parts of the blood as ought to have been discharged; in any of these cases, the blood becomes so changed and corrupted as to prevent its acting as a proper stimulus to the heart.

That organ being now acted upon by a more powerful stimulating matter than by nature it was accustomed to, is accordingly thrown into more frequent, strong, and irregular degrees of re-action. And hence, our author remarks, may be accounted for, those shiverings, palpitations, and other febrile

symptoms, which in such cases universally ensue. In the same manner, all the symptoms of a temporary fever are produced by the injection of any heterogenous fluid, proceeding, he supposes, from their acting as stimulants to the heart and larger blood-vessels. On this principle may be explained all the phænomena observed to occur from the practice, and in no other way does he think they could be accounted for.

From these injections acting as such powerful stimulants to the heart, some advantages, our author thinks, might be derived from them, in those cases especially where a sudden excitement is wished for.

In cases of asphyxia, whether produced by the imprudent application of mephitic vapours, or by any other cause, this species of stimulus, our author thinks, will probably be found more effectual than all the ordinary remedies usually had recourse to.—In such instances, either warm water by itself, or mixed with a few drops either of volatile alkali, or of wine, is recommended as the best species of injection. The same remedy, from its stimulating properties, is also advised to be employed in comatose affections, and likewise in cases

cases of catarrhus suffocations. Independently of the utility to be derived from this practice, by the stimulating powers of such injections, other advantages, our author thinks, may likewise be expected from them.

Thus, in cases of scurvy, where the usual remedies might, in the common method of exhibiting them, be considerably altered in their properties before reaching the course of circulation, by throwing them directly into the mass of blood, their effects, he thinks, will not only be more certain, but much more expeditious, than when first taken into the stomach ; and thus a very small quantity of any of the antiscorbutic juices, injected either by itself, or properly diluted, may probably prove more effectual in obtaining a cure, than much larger quantities taken in the ordinary way. By injecting only small quantities of these remedies at once, their stimulating effects, we are told, will be entirely prevented, as is rendered probable indeed by the effects of Experiment 1st.

In jaundice, and every other species of cachexy, the same kind of remedy may probably, our author thinks, be employed with advantage.

V.

Frid. Forkenbeck *Dissertatio, inquirens Causam perfectæ Depletionis Vasorum in Cadavere detectæ.* 8vo. Harderovici.

BY way of Preface to the Treatise before us, and as a confirmation of the fact with respect to the depletion of the larger blood-vessels after death, our author favours us with the history of a case taken from the *Ratio Medendi* of De Haen, in which, upon dissection, the blood-vessels were found altogether flaccid and empty; no blood whatever being observable either in the arteries or veins.

It was remarkable here too, that the patient was not much debilitated by a tedious illness; five hours only before death, the pulse having been quick, full, and hard; and some blood taken away about that time having evidently an inflammatory appearance.

An empty state of the veins after death has not been usually observed. But the arteries have been so universally found in this condition, that from this circumstance we must account

count for the supposition of the ancients, with respect to arteries, even during life, being filled merely with air. But although the veins are not in general found empty after death, yet instances have occurred of their being so, as was particularly remarkable in the case related by De Haen ; and it always happens, our author observes, that the veins, on dissection, are found flaccid and less turgid than during life.

The cause commonly assigned for this flaccidity and empty state of the arteries after death, is, that their contractile power pushes forward their contents into the corresponding veins : This, our author remarks, might account sufficiently for the phænomenon with respect to the arterial system ; but does not in any respect explain the appearance when found to occur in the veins ; and he is led to suppose, that a very different cause from any hitherto advanced, will, on examination, be found to be the true one, both with respect to the arteries and veins.

Although the power of contraction in the small capillary blood-vessels is not perhaps considerable, yet, that they do to a certain degree enjoy such a power, is evident from
various

various circumstances; and particularly, our author remarks, from the effects of pain, fear, &c. upon the vessels on the surface. These, according to Sanctorius, and others, tend always to diminish considerably the quantity of insensible perspiration.

Having endeavoured to establish the fact with respect to this contractile power of capillary vessels, our author then proceeds to shew, that the diameters of these vessels must after death be considerably increased, in consequence of that universal relaxation always observed to occur on the approach of death.

By such a relaxation through all the capillary system, a considerable addition, he supposes, must be made to the capacities of these vessels, which will enable them to contain, if not all, at least the greatest part of the whole mass of blood; and in this manner, in the dead body, he thinks, all that part of the blood is disposed of, with which, during life, the larger arteries and veins are known to be filled.

This opinion, our author supposes, might, *a priori*, perhaps be doubted; but the fact, he thinks, is rendered certain by the result of the following Experiment.

A piece of flesh, weighing five pounds, taken from an animal newly killed, was toasted till it was almost dry. Then there was found to remain only one pound ; so that here four pounds of fluids were evaporated, which, in the piece of flesh, had adhered to the capillary vessels ; and from hence, our author observes, the opinion in question is not only corroborated, but from this Experiment it appears too, that in the human body there are at least four parts fluid, to one of solid matter.

It may perhaps be objected, he supposes, to the theory here advanced, that the same cause which produces an empty state of the larger arteries after death, should have the same effect upon the veins likewise. But the veins being almost every where furnished with valves, which during life effectually prevent a retrograde motion of the blood, the same cause, he thinks, may, even after death, serve to prevent the return of the blood into the smaller capillaries. When the blood indeed happens to be in a thin dissolved state, a considerable part of it may probably, he supposes, fall back into the smaller set of vessels ; and in such instances, the large veins, as well

as the arteries, will all be found empty, as occurred in the case quoted from De Haen.

The blood taken from De Haen's patient immediately before death, having had the buffy coat, together with other appearances of inflammation, is no objection, our author remarks, to this supposition, of its having been in a dissolved state. For the appearance of blood, on being drawn either from an artery or a vein, is so easily affected by various trivial causes, that no just conclusion, he thinks, can be drawn from this circumstance, either for or against the argument in question.

VI.

Jo. Ern. Theoph. Guerick *Dissertatio de Sulphure Antimonii aurato liquido.* 8vo. Erfurti.

THE author of this Dissertation does not pretend that he is the discoverer of the remedy here treated of; this he candidly attributes to its real inventor, Dr Christianus Jacobus, a celebrated German physician and chemist. The intention of the present publication

cation is merely to make more generally known a medicine, which he considers to be of very great importance.

The common sulphur auratum antimonii of the shops, and likewise the kermes minerale, have long, our author remarks, been justly esteemed as the most effectual preparations of antimony. But a continued use of these remedies being frequently productive of troublesome affections of the stomach, a medicine destitute of the acrimony of either of these, and at the same time possessed of all their influence, was therefore much wanted; and this, we are informed, is now discovered in the remedy under consideration. The following is recommended by Dr Jacobus as the best way of preparing the medicine.

Take any quantity of the ordinary sulphur of antimony dissolved in the usual alkaline lixivium, let one half of it be evaporated to such a consistence that an egg may swim in it; and an equal quantity of the expressed oil of poppies or of almonds being then added to it, the whole is to be well mixed and gently boiled till the oil be no longer perceptible; and the other half of the lixivium being then added by degrees, the boiling is
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to be continued till the acrimony of the alkali is also destroyed.

The mass being now of nearly the consistence of a poultice, is to be put into a receiver, and being covered with alcohol to the depth of five inches, the mixture is then to be set to digest for the space of two days. At the end of that time, a considerable quantity of watery fluid will be found at the bottom of the receiver; and the mass swimming in it being taken out, is to be dried to the consistence and firmness of common soap.

The sulphur auratum antimonii being thus converted into a soap, is in this form to be kept for use, and part of it may at any time be converted into a liquid by being dissolved in spirit of wine, which proves for this article a very complete menstruum.

This medicine, independently of its containing the sulphur of antimony in greater quantity than any other liquid hitherto discovered, is perfectly destitute of that disagreeable nauseous flavour so universally observed in every other preparation of this nature; and the acrimony of the remedy being effectually destroyed by the oil with which it is combined, it is thereby prevented, as

was

was already remarked, from producing any improper effects upon the stomach, while, at the same time, all its influence on the constitution is preserved, as a preparation of antimony.

As a proof of this, various disorders are enumerated, in which this remedy has been found effectual, after every other medicine had been tried in vain; and, among others, a case of obstinate lepra is mentioned, in which a complete cure was obtained by it in the space of two months, after mercury, *æthiops antimonii*, and even Plummer's powder, had been used without any success. In this case, five grains of the soap, in the form of pills, were given morning and evening; at the same time that forty drops of the tincture were exhibited twice a-day, in a decoction of juniper-root. In obstinate cases of chronic rheumatism, this remedy, we are told, is remarkably efficacious; our author himself having in several instances seen it used with advantage. It is likewise recommended in every case of lepra, scabies, *tinea capitis* and in all chronic exanthematous disorders.

In cases of chronic asthma it is said to be particularly serviceable; and likewise in dropical affections, whether of the whole habit, of the breast, or abdomen. Our author mentions several remarkable cures performed by it in cases of dropsy.

In cases of fluor albus, and of gonorrhœa, whether from a venereal taint or any other cause, this liquid preparation of antimony is recommended as being frequently an useful remedy. In hemicrania too, we are told, it has been used with advantage.

This remedy, however, should never be had recourse to, Dr Guerick remarks, where there is reason to suspect vomica, or any internal ulceration; nor should it ever be used where symptoms of hectic fever are observable. He gives, as a general caution, directions for emptying the blood-vessels in every case of plethora, before this medicine be exhibited: and he desires too, that whenever the stomach and bowels are in any degree affected, they may be previously cleansed of all their improper contents.

VII.

Practical Observations on the Treatment of Consumptions. By Samuel Foart Simmons, M. D. Member of the Royal College of Physicians, London, and F. R. S. 8vo. London.

THE frequency and fatality of pulmonary complaints in this country are so well known, and have been so often lamented, that every well-meant endeavour to improve the method of treating them cannot fail of meeting with a candid reception from the public.

The author of the work before us, who is already well known by several other valuable productions, does not profess to give a systematic treatise on the subject; but, as he informs us in the preface, has confined himself to a few observations on the remedies that have hitherto been the most commonly employed; together with such other remarks as have occurred to him in the course of his practice.

Dr Simmons dwells chiefly on the treatment of that species of genuine phthisis which

has its origin from tubercles ; his first section therefore contains some account of these concretions. In the second section, the author describes the symptoms and progress of the disease, together with the methods of treating it. To the marks of a predisposition to phthisis, which are commonly to be met with in authors, Dr Simmons has added the following, *viz.* found teeth, which, as the disease advances, usually become of a milky white colour, and more or less transparent. Dr Simmons observes, that this circumstance was first communicated to him by the learned Professor Camper, when he visited him in West Friesland. Professor Camper supposes it to attend every species of pulmonary consumption ; but from repeated and attentive observations, Dr Simmons is induced to be of opinion, that it is the distinguishing characteristic of a genuine phthisis from tubercles, of a predisposition to it. He remarks, that of those who are carried off by this disease the greater number will be found never to have had a carious tooth.

In speaking of the different species of cough which precede phthisis, he notices that which begins in the form of catarrh, and likewise
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that which is occasioned by an immediate inflammation of some parts of the lungs. He lays down the best method of treating each of these; after which, he observes, that a symptomatic cough, which has its rise, not from catarrh, or from an immediate inflammation of the lungs, but from their sympathy with the stomach, has sometimes laid the foundation of phthisis, from its having been mistaken, and of course improperly treated. This complaint is so far from being relieved by bleeding, that it constantly grows worse after it. The oily remedies likewise serve only to exasperate it; but it seldom fails to give way to one or two gentle pukes, and the occasional use of mild purges.

Our author then proceeds to delineate the progress of the disease through what he styles the inflammatory and suppurative stages of

He observes, that the hectic fever which accompanies this and some other chronic diseases, is evidently the effect of acrimony, and most commonly of pus absorbed and carried into the circulation. The nature of this acrimony, and the different irritability of different patients, we are told, are probably the sources of the variety we observe in fe-

vers of this denomination. In the advanced stage of the disease, he supposes the fever induced to be truly of the putrid kind, it having been well denominated *febris hectica putrida* by the judicious Morton, who considers it as being combined with a peripneumonic or inflammatory fever, which recurs as often as fresh tubercles begin to inflame. For although our author has named one period of the disease the inflammatory, and another the suppurative period, yet he does not mean that the latter is exempt from inflammation; because, while matter is poured into the bronchiæ, or absorbed and carried into the system from one part of the lungs, other parts are in a crude state of inflammation, or advancing towards suppuration; a circumstance which easily accounts for the occasional combination of inflammatory symptoms with those of the putrid hectic.

Dr Simmons observes, that in the different periods of the disease, the curative indications are sufficiently obvious; that to prevent the formation of fresh tubercles, to obviate the inflammation of those already formed, to promote their resolution, to allay morbid irritability, the cough, and other troublesome symp-

toms,

toms, and above all, to check the tendency to hectic, are the views that every rational physician proposes to himself in the treatment of genuine consumption. He then goes on to point out how these indications are to be accomplished. He observes, that we know of no medicines which can exert their specific effects upon the lungs by dissolving tuberculous concretions; and that it is not probable, from what we know of the animal œconomy, that any such will ever be discovered. He is of opinion, however, that medicines which operate in a general manner upon the system, may, by promoting absorption, and diminishing the determination to the lungs, tend to disperse tubercles, or to prevent their formation. He thinks, that the most formidable effects of ulcerated lungs, are the absorption and consequent hectic. So that if we can obviate these, diminish the preternatural determination to the lungs, and fulfil the other general indications just now mentioned, we may very often enable nature to recover herself. He allows, indeed, that the physician's art has hitherto proved very unsuccessful in these cases; but he fears, that this is owing to the remedies

which are employed being very often such as are adverse to the cure.

Our author then proceeds to examine each of these remedies. He observes, that the Peruvian bark is perhaps the most commonly employed of any, and often considered as an ultimate resource in these cases. He is convinced, however, that in the genuine tuberculous consumption, it is at all times inadmissible. He observes, that whenever pus, or any kind of acrimony, excites an hectic, by being absorbed and carried into the circulation, the bark will never fail to exasperate the complaints, especially if it be accompanied with any degree of inflammatory diathesis; unless when the matter has a free outlet from the system, as in the case of abscess, for instance, in which we often find the bark productive of excellent effects. He adds, that it is likewise well known to be useful as a tonic, to obviate the effects of fluor albus, or any other immoderate evacuation in delicate persons, which, by enfeebling the system, very often lays the foundation of phthisis; but that the moment we have reason to suspect the lungs are ulcerated, it ought to be laid aside.

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He has seen the elixir of vitriol of use in the suppurative stage of the disease ; in which it seems to act chiefly as an antiseptic, and its effects are to cool and refresh the patient, and to check the colliquative sweats. Before the hectic symptoms have come on, he thinks it may do harm.

Dr Simmons, contrary to the opinion of Dr Fothergill, speaks in favour of the balsams, and other warm substances, in the suppurative stage of the disease. He has experienced the good effects of balsam of Capaiva, and of balsam of Peru, in these cases, especially when conjoined with nitre. In this part of the work, we have a long note on the use of myrrh in hectic cases, communicated to the author by Dr W. Saunders of Guy's hospital. It seems that the practice of giving myrrh in these cases, has long been in vogue at that hospital ; as appears from the books of Dr Oldfield and others. Mr Stead, apothecary to the hospital, remembers it to have been the practice of a Physician in Yorkshire upwards of thirty years ago, to give myrrh and spermaceti in such cases. And a bolus of these two ingredients has long had a place in the hospital Pharmacopœia. We are told, that

that in the inflammatory period of pulmonary diseases, Dr Saunders has sometimes found it too heating. It ought to be observed, however, that he has always prescribed it simply, without the addition of nitre, or of any other corrector. When suppuration has taken place, and the period of debility come on, he thinks it a good medicine.

Dr Simmons next considers the effects of repeated bleedings in those cases; and here we meet with many judicious practical remarks, which the limits of our work will not allow us to insert. What he says concerning the use of blisters and issues, and of the abuse of opiates in pulmonary complaints, is equally deserving of attention. Upon the subject of diet, exercise, and change of climate, the reader will likewise meet with several new and interesting observations.

Dr Simmons has seldom seen bad effects from any kind of animal food, when dressed in a plain manner, and eaten sparingly once a-day, with a large proportion of puddings, ripe fruit, butter-milk, &c. In these cases, he observes, there is often as much danger from the quantity as from the quality of the food.

food. He recommends a trial of the *lichen islandicus*, or *eringo-leaved liver-wort*, (of which some account was given in a late number of our Commentaries) to be boiled in milk, and given as an article of food.

Our author is of opinion, that Dr Sydenham's recommendation of exercise on horseback, in pulmonary cases, has done harm, by its having been too generally adopted. Dr Simmons allows, that in some cases where consumption is a secondary disease, as, for example, in the nervous atrophy, in the hypochondriacal consumption, or when it is the effects of long continued intermittents; of congestions in any of the abdominal viscera, or in a word, wherever the consumption is not attended with an inflamed, or ulcerated state of the lungs, long journeys on horseback will be beneficial. Such a practice, he adds, may likewise be highly useful in obviating an attack of phthisis; or in carrying off a dry husky cough, in a person of a consumptive habit, when there is reason to suppose that no tubercles are as yet formed. Dr Simmons relates a striking instance of this sort, in the case of his own servant. On the other hand, he contends, that in the confirmed,

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ed phthifi, when the lungs are inflamed or ulcerated, much or violent exercise will be improper. He says, he has seen more than one case in which the death of the patient was hastened by it. He then makes several remarks on the different modes of exercise; and passes on from these to the consideration of change of air and climate, Bristol water, sea-voyages, &c.

Our Author speaks highly of the efficacy of frequent emetics in phthifical cases, especially when given early in the disease. He is at pains to discriminate the effects of the different kinds of vomits that are most commonly employed; those which act by their bulk, and by exciting nausea, such as carduus tea, &c. he says, will be improper. He likewise condemns the use of antimonial vomits, because their operation is not confined to the stomach. He observes, that they produce evacuations by stool, and a disposition to sweating, and that they are consequently improper in the pulmonary hectic. In these cases, he tells us, that he has often employed the blue vitriol with advantage, when administered in the morning, and in the following manner: The patient is first to swallow half a pint of water,
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and immediately afterwards, the vitriol dissolved in a cupful of water. The dose of it is to be adapted to the age and other circumstances of the patient ; and it may be varied from two grains to ten, fifteen, or twenty. In general, the moment the emetic has reached the stomach, it is thrown up again ; the patient is then directed to swallow another half pint of water, which is likewise speedily rejected, and this is commonly sufficient to remove the nausea.

After these observations on emetics, Dr Simmons speaks of other medicines, such as mercurials, chalybeates, and sea-water, which are occasionally recommended in pulmonary complaints. The first of these he deems improper in the genuine phthisis. He has likewise often seen chalybeates do harm in the inflammatory stage of the disease. During his residence at the German Spa, he has seen the Pouchon and Geronstere water used to advantage in cases of scrophulous phthisis. He observes, that in such patients, the mesenteric glands are commonly more or less diseased ; and that mineral waters, by their stimulus, have a tendency to obviate this complaint. With regard to sea-water, he suspects that too much
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has been said of its efficacy, even in scrophulous cases. He observes, that it evidently does harm in every stage of the genuine phthisis ; at first, by its stimulus, and its tendency to hasten the inflammation of the tubercles, and afterwards by augmenting the symptoms of hectic. Dr Simmons asserts, that he can place but little confidence in any thing Dr Ruffel has said concerning sea-water.

Besides the use of internal remedies in pulmonary affections, our author observes, that Physicians have often prescribed the steams of resinous and balsamic substances to be conveyed into the lungs ; that the vapour of dulcified spirit of vitriol dropt into warm water, has likewise been used in these cases, and is advertised as a nostrum under the name of *æther* ; and that the inhaling of fixed air has also been spoken of as an useful practice. Dr Simmons has seen all of these methods tried at different times, but without having perceived any real advantages from them, in the suppurative stage of the disease, in which they might be expected to be of the greatest use ; and, in the beginning, he has often found the two first to be too stimulating. He therefore prefers the simple vapour of warm water, the
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good effects of which he has experienced in numerous instances, when employed at the first attack of the disease. But when the complaint has made any considerable progress, we are told that its utility is less obvious ; and when the patients have been much weakened, he has seen it bring on profuse colliquative sweats, especially when used in bed. He has therefore generally recommended it to be used in the day-time. Dr Simmons closes his work with an account of the *banos de tierra*, or *earth-bath* ; which it seems is an old remedy in Granada, and some other parts of Spain, in cases of hectic fever, and consumption. It consists in burying the patient up to the chin in fresh mould, and is highly extolled by the famous Solano de Luque. This remedy is likewise known to be of singular efficacy in the sea-scurvy. Dr Simmons gives instances of its good effects in both these diseases ; and seems to think, that in both it acts upon the same principles, by the effluvia of the earth being absorbed and carried into the circulation, so as to correct the morbid state of the fluids. He tells us, it has been prescribed with good success at Montpelier and Warsaw ; and he expresses his wishes, that a trial of it

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may be made during the hot months in this country. It is a vulgar practice, he observes, in some parts of Britain, to follow the plough, and to place children in the newly turned furrow, as a remedy in consumptions; and he very judiciously reminds his readers, that there is often some good reason for very old and long continued practices, though it is frequently a long time before it is discovered, and the rationale satisfactorily explained.

VIII.

Philosophical Observations on the Senses of Vision and Hearing; to which is added, a Treatise on Harmonic Sounds, and an Essay on Combustion and Animal Heat. By J. Elliot, Apothecary. 8vo. London.

VOLTAIRE has observed, that Nature, till the last century, lay hid beneath a veil. Des Cartes, says he, removed a corner of that veil. This observation might perhaps be applied to the author of the work before us, with respect to the sensory, if his hypothesis be well founded.

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He begins his observations on the senses, with several new experiments on the eyes; and observes, after others, that if the corner of the eye be pressed with the finger, a luminous spot or ring will appear; but with some remarkable circumstances, which have not hitherto been noticed. The ring, for example, appears in a contrary situation, with respect to the eye, to that of the finger; and by moving the finger at intervals all round the eye, the ring appears to move in a direction diametrically opposite to it. The ring, however, appears not on the opposite side of the eye, but of the face. For example, when the finger is on the right side of the eye, the ring appears on the left side of the face; when the finger is under the eye, the ring appears on the top of the fore-head; and when the finger is above the eye, the ring appears about the upper-lip. By pressing the globes of the eye with his hands in the direction of their axes, he found, that a large luminous appearance was excited, resembling the concavity of the lesser segment of a sphere, or parabolic conoid, the margin of which seemed close to the face, but the centre of it at some

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distance ; and the distance appeared less as the parts were nearer to the margin. The ring also appeared close to the face, provided the margin of the retina was pressed ; otherwise it appeared at some little distance. From the concavity of the luminous appearance, and its surrounding, not the whole body, nor merely the eye, he concludes, “ that the retina of “ the brain (as he terms it) encompasses that “ portion of the sensory which answers to the “ part of the face above described.”

He observes, that by pressing both eyes, only one concave appearance is formed ; as he knew by causing the same appearance by pressing one eye only. Also, that any two answerable parts of the eyes, whether excited by the rays of light, or by pressing the corners, yield but one sensation, as if but one eye had been affected, excepting that the sensation is stronger. “ Now, as these are affairs, says he, merely mechanical, or resulting from organization, and in which there is no opportunity of being misled by custom or habit, as is the case in many instances of common vision ; these appearances having occurred at the very first time of exciting the lumination, may they not be made use of to settle the famous disputes

putes concerning the inversion of images in the eye, and seeing singly with both eyes? Has not every part of the retina of one eye an answerable part in the other? Do not the corresponding fibres from the right sides of both eyes meet in the brain, and terminate in the left side of the sensory; those from the left sides of both eyes, in the right side of the sensory; and those from the upper and lower parts of the retina of both eyes, in the contrary parts of the sensory, so as to be in an inverted situation in the latter to what they are in the former?" In a note subjoined to this paragraph, he answers the objections which he thinks might be urged against this doctrine.

Marriotte has published a curious experiment, which shews that there is an insensible spot in the retina at the entrance of the optic nerve. If any object be looked at whose image occupies the whole surface of the retina, one would imagine from thence, that an hole or dark spot should be perceived in the part of the object answerable thereto. But no such spot or hole is seen. In the concave lumination excited by pressing the centre of the eye, also, no such spot is discernible. This he explains in the following manner :

“ I have observed, says he, that images which fall near that spot, are not perceived as properly defined. There is no such vacuity, therefore, in the retina of the sensory (if I may be allowed the expression); it seems to be filled up by the fibres of the optic nerve, dispersed around that spot in the retina. Hence the ill-defined images there.”

But the general conclusions which he draws from his experiments are, that there are colours liable to be excited in the eye independently of the rays of light; that these colours are caused by vibrations answerable to those of the several sorts of rays; that any one sort of rays falling on the retina, excites those vibrations only which are in union with them, and thence causes only their proper colour; and that in a mixture of several sorts of rays falling on the eye, each sort excites only its unison vibrations, whence the proper compound colour results from the mixture of the whole.

In the next section he treats of the senses of taste, smell, and feeling. He observes, that there are no tastes, or smells, liable to be excited by irritating the organs of these senses, as is the case with colours in the eye; but that
feeling,

feeling, on the contrary, is ordinarily excited by this means.

The experiments which he made on the eye seem to have led him to attempt similar ones on the ear; and he has discovered, that sounds may be excited by pressing the ear, in the same manner as colours may be excited by pressing the eye, and concludes, that they have the same uses. It is demonstrated by philosophers, he observes, that sounds are caused by tremors, or vibrations in the air; and therefore, since sounds may be excited in the ear, which do not at all depend on the pulses of air, they are caused by vibrations liable to be excited in the ear of the same times, as those aerial vibrations which cause the same sounds. Also, as there are many different notes or tones of those internal sounds, there are as many different vibrations liable to be excited in the ear for causing them. The uses of these sounds may likewise be presumed to be analogous to what were shewn of the innate colours, *viz.* That the air, external or internal, could not be conveniently made to communicate its vibrations immediately to the auditory nerve, but that the interposition of those shewn to exist in the retina were ne-

cessary to that end. He concludes, therefore, that there are in the ear different times of vibration liable to be excited, answerable to those of the air, for causing the several gradations of sound analagous to what was quoted concerning vision. And it may be proper to add, that he affirms that the same innate sound is invariable with regard to its tone or note ; that there are several (he imagines about eight) octaves of them, and that, while the vibrations in the retina are all blended together so as to produce, on excitation by pressure, a white colour resulting from the whole, these in the ear are on the contrary distinct.

In the fourth section, he gives many observations and hints relative to other particulars of hearing. For example, he endeavours to make it appear probable, that hearing is composed of sound, and a tremulous sense of feeling ; and that the former is even governed by the latter. The tympanum, he argues, is analogous to the retina, with respect to the situation of sounds, though in that membrane only the sense of feeling is excited. Sounds coming from different quarters without us, he thinks, affect different parts of the tympanum, as happens of the retina with regard to objects.

jects. He even attempts to shew, that the difference of sounds, whereby they are known from each other, though of the same tones and loudness, depends on the principle just mentioned. There are also several new observations to be met with, relative to aerial and musical sounds ; but as neither those, nor the treatise on harmonic sounds, come within our province, we must refer those who are curious in such matters to the work itself.

Mr Elliot's sentiments respecting combustion and animal heat, would have appeared much more new, had he not been anticipated in many particulars by Dr Crawford, of whose Essay we lately gave an analysis. For it appears, that he had formed a theory of those matters on the same principles with that gentleman ; and had even gone beyond him in some points, though he had likewise, as he ingeniously confesses, for want of convenience to make experiments and consult authors, fallen into several errors. His theory of combustion is the same in effect with that of Dr Crawford, though he arrived at it by a different road ; but his doctrine of nitrous combustion is essentially different. He argues, that the nitrous acid contains pure air in a

fixed or combined state : That on the proper application of heat, the phlogiston of the inflammable body, and the air of the acid, mutually disengage each other, and unite with a shining heat, in a manner similar to atmospheric air, and phlogiston in ordinary combustion ; and that the air thus at liberty resumes its elastic state, becoming the same fixed air as is generated in common inflammation. He thinks, that air constitutes the essential part of the nitrous acid ; and calls the fixed air generated in this process, the nitrous sulphur. He concludes this subject with a query, whether air does not also constitute the essential part of the vitriolic and other acids, but combined with other principles than in the nitrous ?

In the seventh section, which he modestly entitles a *Speculation*, he gives a series of cases concerning fire, the manner in which it exists in bodies, and the laws by which it is regulated. He endeavours to show, that particles of air repel each other, by reason that they attract fire, and therefore are surrounded with atmospheres of that principle. And, on the same theory, he accounts for the expansion of bodies, and the separation of their particles

cles by heat. By a very curious mode of reasoning, he was led to the discovery, that phlogiston diminishes the attraction of bodies for fire. An opinion has lately been started, that the gravity of bodies is lessened by their combination with phlogiston. Our author imagined, that it produced this effect, by weakening their repulsion for æther, on which repulsion their gravity depends. Till now, he had imagined that æther, fire, and phlogiston, were one and the same fluid. But on applying this reasoning to his notion concerning the repulsive force of particles of air, he found that it entirely clashed therewith; for phlogiston weakens the elasticity of air, which he imagined was affected by diminishing the attraction of its particles for fire. By several experiments which he had made in consequence of this idea, he satisfied himself that the proposition was general; and from hence also he concluded, that fire, æther, and phlogiston, were three distinct fluids. By using the word *attraction*, he has perhaps the advantage of Dr Crawford, who adopted that of *capacity*; the affections of the thermometer, &c. by heat, being more easily conceivable on that supposition. Dr Crawford barely asserted,

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that the capacities of bodies for containing heat, are diminished by the addition of phlogiston, and increased by the separation of it. But Dr Elliot's proposition is, that "phlogiston weakens the attraction of bodies for fire, in proportion to the force of its combination, which affords, according to his theory, an easy solution for the phænomena of combustion, &c. For, the same quantity of phlogiston being transferred from a body with which it is weakly combined, to another with which it may unite by a stronger attraction, the heat produced by the combination will be greater than the cold generated by the decomposition, in proportion to that difference. He farther shews, that this force of combination may be increased even in the same body; and hence accounts for the heat generated by friction, by the rays of light, &c. and also for the phænomena of excitation in electricity, the excited electric absorbing phlogiston during the moment of friction, and consequently attracting it from the bodies in contact; though indeed this increase of attraction immediately afterwards ceases. This principle he also applies to the heat in congelation, to the

the cold in evaporation, and to other phænomena of the like kind. Electrical repulsion, he imagines, depends on the same principle as the repulsion of particles of air."

Dr Crawford treats only of the heat in combustion; but our Author has also given a theory of the light, not only of combustion, but of ignition; which he supposes to arise from very different causes. He observes, that in ignition bodies are at first red-hot; but that as the heat increases, the colour verges more and more towards white. The particles, therefore, which compose the most refrangible rays, are least refracted by bodies, so they are less forcibly retained by them, and hence are expelled with a less heat. The flames of phosphorus or sulphur, and some other substances, he observes, are not ignited, and they emit the more refrangible rays most copiously, contrary to what happens in ignition. The particles which compose the less refrangible rays, being less forcibly retained, by the body, are first and most easily attracted by the air. But the joint action of the generated heat, and the attraction of the air, are so powerful, that they separate the phlogiston from the body faster than the air can unite with

with it ; and that part which is not immediately combined, resumes its elastic state, and is driven off in the form of light. But as the air, for a reason just given, unites most readily with the larger particles, those which are expelled must be the particles which constitute the more refrangible rays, and of course the colour will be blue. From hence it appears, that phlogiston is light in a state of combination with bodies, and that this light furnishes the blue colour emitted in combustion ; whereas the light in ignition is derived from the phlogiston existing in the pores of bodies in an elastic state. The Author shews, however, that the flames of most bodies are also ignited, and hence shine with the joint light of combustion and ignition ; and has given a table on this principle, exhibiting a curious analysis of the colours of different flames.

His theory of animal heat is the same in effect with that of Dr Crawford ; but they differ widely with respect to the origin of the phlogiston by which this heat is extricated. Dr Crawford supposes it to be derived from the putrescent parts of the system ; our Author, from the nerves ; on which he founds a very singular system of physiology. That
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the phlogiston is derived from this source, he concludes from the well-known fact, that if the nerves which serve any particular part be destroyed, that part will be colder than before, although the blood circulates through it as usual. But he endeavours to shew, not only that animal heat, but also the vital, and other motions of the body, depend on the same principle. He reduces those motions to the contraction of the moving fibres ; and suggests, that for a nerve to cause the action of a fibre, it is necessary that the nerve should impart phlogiston, either immediately, or mediately, to the blood flowing through or by that fibre. He supposes, that the nerves derive their phlogiston, not from the brain, but from the chyle in different parts of the body, and he states his sentiments respecting the use of respiration in the following words :

“ Now, as life depends on the action of the fibres ; as there is a necessary connection or dependence between the action of these fibres, and the phlogistication of the blood ; and as from the great number of moving fibres in the body in continual action, and the small quantity of the blood, the latter will be presently phlogisticated ; we have an idea
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of the very great importance of respiration, and the absolute necessity of it to the continuance of life ; as we find by experience to be the case ; neither the heat of the blood, nor even the vital motions of the system, being capable of existing long without it.”

From what has been said, our readers may be able to form some idea of the ingenious conjectures and singular opinions proposed by Dr Elliot. But although we have extended this article to a considerable length, yet we must refer the reader, who wishes to speculate on theoretical questions, to the work itself, for information respecting many particulars which we have not mentioned.

IX.

Henrich Matthias Marcard, der Arzneywissenschaft Doctors, zu Hannover, Medicinische Versuche. 8vo. Leipfig.

i. e.

Medical Essays, by Henry Matthias Marcard, Physician at Hanover.

IN the Essays now before us, Dr Marcard presents his readers with observations on different practical subjects. His remarks are
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principally the result of his own experience, during practice for several years. The first volume, of which alone we propose at present to give an analysis, is entirely on the subject of jaundice.

In treating of jaundice, he presents us with a doctrine concerning the disease in a good measure peculiar to himself. But before delivering his own opinion, he sets out with some remarks on those which had already been offered by others. With regard to the nature of the distemper, he observes, that although ancients, as well as moderns, have very generally agreed that a preternatural yellow colour of the countenance, and particularly in the white of the eye, was an effect of the bile; yet they have differed as to the means by which this effect is produced.

He first takes notice of the opinion of Pechlin, who considers it as very improbable that the bile, which had once discharged itself out of the liver, should return back again by the same way, and from thence enter into the blood; and thus produce the disease.

Pechlin thinks it much more probable, that the materials of the bile exist in such a manner in the blood, that an accidental fermentation

tation may separate bile without any action of the liver, and give rise to the jaundice by the parts thus separated being thrown upon the skin. This fermentation in the blood, he says, may take its rise from anger, melancholy, or the bite of a poisonous animal. And he thinks, that this accounts for the sudden existence of the jaundice, in consequence of any violent affection of the mind, much better than the received opinion, that the bile finds its way back again into the liver, and by its action enters into the blood.

The opinion of Galen, he observes, very much resembles that of Pechlin. He imagines likewise, that the gall is circulated in a state of perfect mixture with the blood, and that without any intervention of the liver, merely by external causes, such as the bite of a poisonous animal, it may be separated from the blood. But, besides this, he is likewise of opinion, that the jaundice may arise from the weakness of the gall-bladder, unable to draw to it the bilious matter from the blood.

Amongst the moderns, Van Swieten and Morgagni do not altogether discard this doctrine. They advance, that although it be true every jaundice does not exist in this manner,

ner, yet they are to be found in the blood particles destined for bile, which, without any action of the liver, can separate themselves from their mixture and occasion a jaundice.

Mead says, that there is a species of the jaundice which arises from a spasm of the nerves, when the fine elastic fluid, which is contained in them, becomes too acrid and strong, so as to shut the bilious duct, and prevent the gall from passing through the liver. It then, he thinks, finds its way upwards through the blood, and extends itself through every part of the body. He adds, that this is the case with the jaundice which arises after colic pains and the bite of a poisonous animal. From this our Author observes, it appears evident that Mead was of opinion, an obstructed separation of the gall was one of the causes of the jaundice.

Dr Bruning, an author of great judgment and learning, in treating of the jaundice which arises from spasm, offers an opinion which approaches something near to the former. He thinks, that when some disorder of the liver prevents it from performing the secre-

tion of the bile, the oily and saline particles, which constitute the principal part of the bile, remain behind in the blood. By this, the natural and healthy mixture of the blood is changed, and a yellow-coloured *cacochymia*, and even the jaundice itself, is occasioned. Dr Bruning, however, does not consider this as the sole cause of the jaundice. He supposes it to take place only in certain cases, while in others the disease actually arises from the bile already secreted by the liver, which finds its way back again into the blood. And it is likewise the opinion of most of the other writers, who have adopted this doctrine with respect to the origin of the jaundice, that every jaundice does not arise in this manner. They always suppose, that the bile already secreted may return again into the blood, and by this means occasion it.

In the second chapter, our author proceeds to the examination of the foregoing theories. He observes, that the opinion of Pechlin, and those other writers who suppose that the bilious particles abandon the circulating fluid, and attach themselves to the skin, in one point of view, has something in its favour; as it may easily be conjectured, that an ob-

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structed secretion of the bile from the blood may occasion an unnatural mixture. Still this, however, is mere conjecture. It often happens, that although a tedious obstruction in the liver may have existed, and consequently, a tedious secretion of the bile, and given rise to a sensibly yellow colour, yet it has by no means occasioned a jaundice. Such a colour of the skin is sometimes to be found, where not the liver, but the lungs, are affected. Dr Simpson also has very well remarked in his treatise on the jaundice in the Edinburgh Medical Essays, that every yellow colour of the skin is not to be considered as a true jaundice; and that unless the white of the eye be yellow, and the urine considerably coloured, we cannot assert that the bile has any share in this yellow appearance.

In order to show that a jaundice cannot immediately arise from the blood, and the other circulating fluids, without the intervention of the *liver*, our author applies to the preparation of the bile the chemical terms of *product* and *educt*. Of these terms, he gives the following explanation: "That a *product* is what by a certain process may be extracted from another substance, but could not for-

merly be found in the whole mixture, nor distinguished by any of its effects and qualities. An *educt* again, is what could formerly be found in a body in its state of mixture; and before it be extracted, possesses the same qualities it afterwards has."—Now, there is no doubt that the blood contains the materials of the bile. The only question is, How these materials are contained in it? If the bile does already exist in the whole mixture, and be perceptible to the senses in the blood, or, in other words, be only an *educt*, there is a foundation for the foregoing theory. But if, on the contrary, we can discover nothing in healthy blood which has any resemblance to bile, and if it be a product from the blood, then this theory has no manner of foundation.

Our author hesitates not to assert, that the bile is no *educt* from the blood. We neither observe in blood the very remarkable colour of the bile, nor taste the bitterness; and we have no ground to suppose, that it is any other way separated from the blood, than by some hidden operation of the liver. It therefore falls naturally under the idea of a product; as it was in no shape formerly to be

be perceived in the blood till it passed through the liver. From the application of this principle, it is in the highest degree probable, that there is no production of the bile but by means of the liver ; and that the theory of Pechlin, with regard to the origin of the jaundice, is altogether a chimera.

But a still more important objection to this theory he offers from the analogy of the other secretions. The secretion he considers in order to illustrate this, as being particularly analogous to it, is the semen ; and concludes, that as the tears are not separated by the pores of the skin, nor wax of the ear by the nose, so it is equally unnatural to suppose, that the bile is secreted without the action of the liver.

As a further objection to this doctrine, in the fifth chapter, our Author adduces several instances of persons affected with swollen and scirrhus livers, where an obstruction must necessarily have taken place, but without any appearance of the jaundice.

After shortly mentioning the opinion of Sylvius, who supposes that the jaundice arises from a disorder in the blood, which prevents the bile from intimately mixing with it,

and that when the fluids are thus separated, the bile attaches itself to the skin; a supposition which he considers as altogether arbitrary: He next proceeds in the sixth chapter, to consider the modern and generally received theory with regard to the origin of the jaundice. It is now the common opinion, that no jaundice can arise but by means of bile actually separated by the liver; and that the bile thus prepared, is thrown back into the blood by some preternatural circumstance. This circumstance is a stoppage of the bilious duct which has been ascribed to various causes. Amongst the supporters of this theory, some pathologists, and Haller in particular, suppose, that the shutting of the hepatic duct alone may occasion the jaundice, and exclude the gall-bladder from having any manner of influence.

Our author examines this opinion at very great length; and, in order to prepare the way for this examination, he considers the nature of the bile when contained in the liver and when it is in the gall-bladder. When it is already separated by the liver, and in the bilious duct, its colour is very pale, and its bitterness but very inconsiderable. Th

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he proves from feveral obfervations, and concludes, that the liver bile is fenfibly different from the bile in the gall-bladder, which is of a darker colour and very bitter tafte. He thinks, that this difference may either be occafioned, according to an opinion of Haller, from the long continuance of the bile in the gall-bladder, and by that means a further feparation from its watery parts ; or, that there may perhaps be a farther preparation and fecretion of this fluid in the gall-bladder. While others have been of opinion, that the liver-gall may continue mixed with the blood, without producing any confiderable effect ; our author thinks, he may with confidence affert, that the liver-gall, although it be even feparated from the blood, is by itfelf incapable, when again introduced into it, of giving any confiderable jaundice. He contends, that it is unable to give to the fkin, eyes, and urine, a colour, and to the faliva a tafte much ftronger than its own.

After offering this objection to the generally received theory, he next applies to it the different caufes which give rife to the jaundice ; of which he fupposes gall-ftones to be

the most frequent and important, infomuch, that certain eminent writers are disposed to allow no other cause to be capable of producing it. With regard to biliary stones, our author observes, that they are for the most part found in the gall-bladder. Hoffman, he says, observes, that real biliary stones in the liver are in the highest degree uncommon, which he ascribes to the thinness of the bile in the liver. It is true, other stony concretions are to be found in it; but these are not of a bilious nature, enter not into the bilious duct, and occasion not the jaundice. After mentioning the observations of many anatomists on this subject, tending to confirm his opinion, he concludes, that if it appear that biliary stones chiefly occasion the jaundice during the time they are in the gall-bladder or in the biliary duct; or if it be only certain, that in such circumstances jaundice often arises, then the probability of the theory, that the bile finds its way back through the liver to the blood, is greatly weakened. But he observes it is a certain fact, that very generally the stoppage of the usual passage produces a jaundice. The instances of this are so numerous

merous and undeniable, that he judged it unnecessary to adduce them.

In like manner, our author endeavours to shew, from the inflammation of the liver, and other received causes of the jaundice, the weakness of this theory; and, in general insists upon the difficulty of the return of the bile through the liver into the blood, and the insufficiency of the bile from the liver to produce the jaundice.

After having thus endeavoured to prove in the first part of his work, that from the most frequent and most important causes of the jaundice, they cannot produce their effect in such a manner; that the bile from the gall-bladder can return back to the liver, and thence enter into the blood; and likewise, that in every considerable jaundice the bile in the gall-bladder has a share; our author, in the second division of this treatise, attempts to discover the way by which the bile from the gall-bladder may mix with the circulating fluids, without passing through the liver. In the first chapter, from a variety of curious instances of morbid dissections, Dr Marcard proves, that the bile, in case of any stoppage of the duct, finds its way through the substance

stance of the gall-bladder, into the cavity of the abdomen, and then enters into the circulation. The bile, he says, is of a very penetrating nature, and the gall-bladder, like every membrane of that kind, is porous. In support of his opinion, he adduces a variety of facts from morbid dissections, where a considerable quantity of bile was found on the outside of the gall-bladder, which plainly appeared to have oozed through; and in one instance, it was in so great quantities, in the abdomen, that it could have been taken up in spoonfuls. Amongst others, he mentions a very curious instance from the English Philosophical Transactions, inserted by Dr Alexander Stuart, of a soldier wounded in the right side, who died in the 17th day, and was affected with a partial jaundice. His urine, and some of the under parts of his body, were yellow, as if stained with saffron. Upon dissection, he was found to have a small triangular wound in the bottom of the gall-bladder. From this instance he maintains it is evident, that the bile poured into the cavity of the abdomen enters into the circulation.

In the second chapter, Dr Marcard proceeds to point out still another way by which
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the bile may intermix with the circulating fluids, without passing through the liver. He observes, that when the discharge of the urine is stopped by some obstruction in the urethra, it is an undeniable fact, that the urine already secreted finds its way back again into the blood ; and that in this case, no one is disposed to think that the urine rises up again through the long passage into the kidneys, and then enters into the blood. With much better foundation they advance, that in the bladder, as well as in all the cavities of other animals, there exist certain absorbent vessels, which, in a sound state, only take away a pure unmixed fluid ; but when there is a total stoppage of the discharge, in consequence of the stimulus occasioned by the very great fulness, and by the acrimony of the quantity so long contained there, they now allow the urine to enter into the mixture, which by this means finds its way into the blood. Although we cannot absolutely conclude, from what in certain circumstances takes place in the bladder containing the urine, that in a similar situation the same thing shall take place in the gall-bladder ; yet our author thinks it in the highest

est degree probable. And the reason why this has not been attended to is, because another way seemed possible. For the gall-bladder has not only as many lymphatic vessels as the urinary bladder, but many more, and much more visible. He observes, that many greater and more remarkable changes must take place on the bile than with the urine, during its continuance in the bladder, as the urine is discharged almost always as it comes from the kidneys. The bile, while it is a very mixed fluid, and of considerable consistence, is nevertheless of a very penetrating nature, as is obvious from its effects upon the parts in the neighbourhood of the gall-bladder; and is therefore very well adapted to penetrate through the vessels. And if this be its nature in a sound and healthy state, how much more may it act in this manner in a morbid condition? Our author, therefore, sees no reason why he may not advance, that the many absorbents of the gall-bladder, which, in a natural state, only imbibe the superfluous fluids, when in a morbid condition may pass the bounds of their destination, and admit the bile in the entire mixture. The kidneys, he says, sometimes let the blood through.

through. And when bile is thus received by the lymphatic vessels, it enters into the system of blood-vessels, and thus into the mass of circulating fluids.

The two ways, therefore, by which Dr Marcard asserts the bile enters into the blood, without passing through the liver, are the absorbent lymphatic vessels, and the inorganic openings or pores of the gall-bladder. He thinks, that this last way will only take place when the bladder is very much distended, either from its being very much filled with bile, or when it is not so much filled but pressed upon by some external force; or when the coats of the gall-bladder are affected by some particular torpor. In these cases, he says, it is no wonder that the transudation of it should continue even after death, unless some particular cause shut the pores that were thus opened.

The causes which force the absorbent vessels to receive the bile, according to appearances, are more numerous; in this however they agree, that it is in consequence of some stimulus excited they produce this effect. Both these ways may exist at the same time, and then their effect is the more considerable; and

and even the very great distension of the gall-bladder, which enlarges the pores, may, in the end, have an effect upon the lymphatic vessels, and force them to attract the bile. He looks upon it, however, as certain, that the inordinate action of the absorbing vessels is by much the most frequent cause of the jaundice, as it may take place when there is not a very great quantity of bile in the gall-bladder, and when the passage from the gall-bladder to the intestines is not in the smallest degree obstructed.

After having thus established his theory, and that liver-bile is insufficient to produce the jaundice, which must be occasioned by bile already prepared in the gall-bladder: That the bile from the gall-bladder does not return back again into the liver, and thus enter into the blood, but either finds its way through the pores of the gall-bladder into the cavity of the abdomen, or is absorbed by the lymphatic vessels, Dr Marcard next proceeds to apply this doctrine to the various causes inducing the jaundice.

The first which he considers is spasm; and, after mentioning the various causes inducing spasm, he shows how it produces its effect.

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He points out the different influence of stones in the gall-bladder ; that when they are free and detached, they produce their effect by occasioning a stimulus, and inducing a spasm ; but when in the neck of the gall-bladder, they stop up the passage and prevent the discharge.

When the jaundice arises from the bite of a poisonous animal, he is not of opinion with Dr Simpson and some ancient authors, that it is occasioned by an internal commotion of the blood. But he thinks, with Dr Mead, that it arises from spasm. He does not, however, with Dr Mead, ascribe it to a spasm which only affects the common canal, and thereby forces the bile back through the liver into the blood, but to a spasm which has this peculiarity in it, that it produces an effect upon the absorbent vessels of the gall-bladder. After mentioning a variety of other causes, which Dr Marcard thinks occasion a jaundice by inducing spasm, he considers some causes which produce this effect without occasioning spasm. These are stoppages of the neck of the gall-bladder, which, though unfrequent, are nevertheless very certain causes of the jaundice. And while stones stick fast in the biliary duct,

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they may produce their effect in this manner, but much more frequently by exciting a stimulus and inducing a spasm. Besides this, he mentions others, such as a defect in the absorbent vessels of the gall-bladder, the thickness of the gall, and the like. And he shews, that all the various causes operate in the ways he has pointed out, in producing the jaundice.

To this Treatise upon the Theory of the Yellow Jaundice, he subjoins an Appendix, containing a short account of the Black Jaundice, and practical observations upon the treatment of the Yellow Jaundice.

Although the black jaundice is sometimes nothing else but a dark yellow jaundice ; yet at other times, the colour is so very dark, and appears in such a manner, that we must conclude it to have something peculiar in its nature, and not merely to be a higher degree of the yellow jaundice. This disease is well known to be much more frequently mortal than the yellow jaundice. The ancients imagined that it arose from the spleen : But from several instances which our author adduces, he observes, that although the disease which is named *black jaundice* be manifold, still, however,

however, he is disposed to think it is nothing else than a strong yellow jaundice. He contends, that the bile can assume all manner of colours, green, red, and, in certain circumstances, black. The worst kinds of black jaundice are, he says, those which arise from a very great consumption in the organical parts of the biliary system. When it only differs from the yellow jaundice, in the skin having a greenish appearance, or when any difference may arise merely from a preternatural colour of the bile, in the view of medical treatment, the black jaundice has nothing peculiar from the yellow jaundice. But when it arises from any consumption of the important viscera, our author suspects, that in such cases art can very seldom apply any remedy; and hence the cause why the black jaundice is so often mortal.

In the cure of the jaundice, our author says he has two objects in view, the one is to remedy the consequences of this disease; and the other to remove the causes of it.

On account of the obstructions which take place, cleansing medicines are often employed, and in general rhubarb is given: But where there is any reason to suspect spasm, or

to hope that stones may be discharged, our Author thinks that manna is much preferable.

In order to correct the disorder which must arise in the state of digestion from the want of the bile, many means have been devised, but nothing appears to our Author equal to thickened ox-gall in pills.

To correct the heat and burning in the external parts, even when there is properly no fever, he recommends the use of acids.

He proposes a variety of medicines for the biliary stones, the most important cause of the jaundice, both with the view of removing and of dissolving them.

When a biliary stone occasions very great motions in the body, blood-letting is usually recommended; but opium he considers as by much the most important remedy for removing the violence of the symptoms which arise from the stimulus of a stone. For, in consequence of this, it is often, he observes, necessary to diminish the intolerable pain, to remove the spasm, to quiet the continual vomiting, and to support the strength, and sometimes even the life of the patient. A variety of other medicines of a diluting nature, are likewise recommended

recommended by our Author, with the view of fulfilling the same intention, as almond-oil, permaceti, &c. He advises, also, external fomentation of the place where the disorder has its seat, baths of tepid water over the whole body, and emollient glysters.

The greater probability there is that the stone may be discharged, the more foundation there is to have recourse to violent purges and vomits. But, in the use of vomits, particular caution is necessary; and he thinks they are only to be employed when there is no reason to dread any inflammation, or to suspect any defect of the viscera. A great deal of motion, and a long journey, has likewise been recommended, with the view of discharging the biliary stones. Our Author likewise gives his opinion about the efficacy of soap, and some other medicines used for the biliary stones. He afterwards points out the medicines to be used when the jaundice arises from spasm, where he says, particular attention must be paid to the causes inducing it. He concludes with examining the various specifics for this disease, in none of which he is disposed to place any confidence.

X.

Observations on Fevers, especially those of the continued Type; and on the Scarlet Fever, attended with ulcerated Sore Throat, as it appeared at Newcastle upon Tyne in the year 1778: Together with a comparative View of that Epidemic with the Scarlet Fever, as described by Authors, and the Angina Maligna. By John Clark, M. D. one of the Physicians to the Newcastle Dispensary. 8vo. London.

DR CLARK is an author whose name we have already, oftener than once, had occasion to mention in these Commentaries. Besides the analysis which we gave of his observations on diseases in long voyages to hot climates, our readers may also remember several original papers with which he has enriched this periodical publication. In the present work, he treats of a subject, which, although often before considered, must still be admitted to be important, and will, we doubt not, be viewed as affording a valuable article for the present number.

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It would much exceed the limits of our publication, to give a complete analysis of the volume now before us : We shall therefore only endeavour to present our readers with a concise account of the opinions and practice of our Author ; particularly of those which differ from the established doctrines.

Dr Clark has divided his work into two parts. In the first, he treats of fevers, especially those of the continued type. After introducing his subject, by giving a short definition of primary fevers, we are, in the second section, presented with observations on their difference. He remarks, that both the ancients and moderns have divided fevers into many *genera*, and have bestowed many appellations upon them, derived from the time of their duration, from some remarkable predominant symptom, from the state of the fluids which accompany them, and from other circumstances. But he thinks, that the many names to be found in books, only load the memory, perplex the unexperienced, and are of no real advantage in practice. After careful attention to the symptoms and nature of fevers in different climates, our Author is convinced, that although many varieties happen, according to

the difference of constitution, season, situation and country, yet every where fever is essentially the same, or, in other words, consists of one *genus*; and that the only *species* that can be clearly ascertained, are the following, *viz.* intermittent, remittent, and continued fevers. In support of this opinion, he recites the essential symptoms of these species; and concludes, that continued fevers do not differ more from the remittent, than the last from the intermittent type. Their frequent changes into each other, prove them to be of the same *genus*; and the variety of their forms, he thinks, depends in a great measure upon the difference of climate, constitution, &c. but more particularly on the concurrence of the remote causes of fever, *viz.* a moist warm state of the air, marsh effluvia, and human contagion; the two former producing the intermittent or remittent, and the latter almost always the continued type.

Continued fevers have been commonly supposed, by medical authors, to consist of three *genera*, the *inflammatory*, the *nervous*, and the *putrid*. Dr Clark, however, rejects this division of fever, as he is of opinion, that these supposed *genera* only express different states of fever,

fever. The inflammatory fever, for example, is defined to consist in intense heat, frequent, strong, hard and full pulse, with high-coloured urine. Most fevers, in their incipient state, he observes, are attended with these symptoms, which however prevail more in the paroxysms of intermittent and remittent fevers, than in those of the continued type. Even the depressing powers of contagion, do not always guard against symptoms of strong action in the heart and arterial system. Gilchrist, describing the *nervous* fever, remarks, “ That in some, the seizure and symptoms
 “ on the first days were violent ; such as vomiting, nausea, headach, full, strong and
 “ hard pulse, heat and redness of the eyes.” Except by the tremors of the hands, even the jail or hospital fever is not to be distinguished, in the beginning, from any common fever. Sir John Pringle in the nervous fever, and Huxham in the putrid fever, advise bleeding to moderate the strong action of the vessels. For these reasons, our Author thinks, whatever attention this state of fever may merit in practice, as it equally attends intermittent, remittent, and continued fevers, it ought not to be admitted as constituting any generic difference.

The term *inflammatory*, indeed, in his opinion, ought only to be applied to fever when it is the concomitant of inflammation; and he adds, that, however contrary the assertion may be to the authority of Physicians of the first eminence, he has never met with an idiopathic inflammatory fever. He is inclined to believe, that the fizy appearance of the blood, which has led to the opinion of fevers being inflammatory, is no certain criterion of inflammation, as it has been frequently observed to exist in the blood of those who have laboured under putrid diseases; and, in support of this fact, he quotes the authority of Drs Heberden, De Haen, and Sir John Pringle.

Having, for these reasons, rejected the *inflammatory* fever, as an idiopathic disease, he proceeds to the consideration of the other distinctions which have been applied to continued fevers. Every symptom characteristic of the *nervous* fevers, he remarks, attends *remittents* of hot climates; and even all continued fevers in this country, are, in general, sooner or later succeeded by this state of fever. And with regard to the *putrid*, although in some fevers the fluids from the beginning have

have appeared in a dissolved state, yet putrefaction is more frequently an effect of fever than a cause, and equally attends intermittent, remittent, and continued fevers. There appears, therefore, he thinks, great impropriety in confining these terms to continued fevers ; and still more so, in establishing them as different *genera*.

In other diseases, Dr Clark farther observes, were we to form distinct *genera*, from different states of the fluids and other attending circumstances, as has been the case in continued fevers, we should very much multiply diseases, which are essentially the same. The small-pox, for example, is almost always attended with fever, which in some patients, is accompanied with *strong action* in the vessels ; in others, with symptoms of debility and *nervous distress* ; and in others, with those which denote a tendency in the fluids to putrefaction. Nay, even the same patient (which is also the case in continued fevers) will, in a few days, go through the different states of fever which attend this disease ; yet every Physician knows, that the distemper proceeds from the same specific contagion ; and that these varieties express no generic difference. Upon the whole,

whole, he is of opinion, that all primary fevers are attended with the same essential symptoms ; and that the only difference is, that in some of them the intermissions and remissions are perfect, and in others so obscure as justly to entitle them to the name of *continued*. He likewise allows, that they differ from each other, in being sometimes attended with strength and activity in the vascular system, sometimes with symptoms of debility, and sometimes with those which denote a tendency in the fluids to putrefaction. He thinks it therefore reasonable to conclude, that they do not arise from so complex an origin, nor require so great a variety in treatment, as has been generally imagined.

Having made these observations, our author passes over the treatment of intermittent and remittent fevers in a cursory manner ; as the use of the Peruvian bark in the former is universally established, and as he has already treated of the latter in another publication *. He then proceeds, in the third section, to treat of the cure of continued fevers.

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* *Observations on the Diseases in long voyages to hot countries, &c.*

Although he admits that great variety obtains in continued fevers, with respect to their symptoms and degree of danger, yet in practice he judges it principally necessary to attend to the following distinctions or states of fever :

1. Continued fevers frequently in the beginning are attended with strong action in the vascular system ; and this state may be distinguished by the following symptoms : The pulse is quick, strong, hard and full ; the heat of the body intense ; the urine high-coloured, and often in small quantity ; and the senses and spirits remain tolerably clear. If the fever continue, or if it be not prevented by the method of cure afterwards to be mentioned, it is for the most part sooner or later succeeded by the following state.

2. Continued fevers are more frequently from the beginning, or soon after their formation, attended with debility and depression of the vital powers ; and this state may be distinguished by the following symptoms : The pulse is weak, quick, and frequently unequal ; the urine commonly pale ; the heat not very intense ; and the strength and spirits prostrated. Watchfulness and delirium are
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added, and, as the disease advances, the delirium terminates in coma ; *subfultus tendinum* enfues ; the stools and urine frequently glide off involuntarily ; and the patient is apt to faint on the least motion.

3. Both the preceding states of fever are frequently succeeded by, or attended with, a disposition in the fluids to putrefaction, which is distinguished by the following symptoms : The tongue becomes dry and black ; the breath and stools foetid ; *petechiæ*, purple or livid spots, appear ; hæmorrhages happen from the nose and various parts : and, before death, the body very frequently emits a cadaverous smell.

Having thus distinguished continued fevers, and having given the above characteristic symptoms, by which their most important states may be known, he proceeds to mention the method of cure which he found most beneficial.

In the first state of fever, Dr Clark directs emetic tartar to be given in such doses as to vomit gently ; and if the strong action of the vessels do not abate, we are told, that it will be proper to continue the antimonials for some days longer, in such a manner as to keep the
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secretions open. Should it fail to operate downwards, some mild laxative must be added. As soon as the velocity of the circulating fluids is by this means diminished, he commences immediately with the Peruvian bark, without regard to remissions or exacerbations, and continues it in as large doses as the patient's stomach will bear. And we are told, that if this method be in due time applied, the disease will seldom terminate in the other states of fever, or, in other words, become *nervous* or *putrid*. With regard to bleeding in this state of fever, he allows, that there may be some cases which may demand its use, particularly when there are evident signs of topical determinations of blood, to the head, lungs, or any other part; when the patient is plethoric and vigorous; and when the disease derives its origin from other causes than contagion. But we are told, that during several years practice he has only had occasion to direct this evacuation twice in continued fevers.

In the *second* state of continued fever, attended with debility and depression of the vital powers; when called in the beginning, if the skin be hot and dry, he gives antimonials

nials as directed in the former state ; but he never continues their use so long as to produce profuse evacuations. But when the much patient has been weakened, or the disease advanced, he thinks antimonials are unsafe, and ought to be omitted entirely. With respect to other medicines, he places the whole stress of the cure on the Peruvian bark, without waiting for remissions.

In the *last* state of fever, the bark ought to be given in very liberal doses, together with the vegetable or vitriolic acid ; ripe fruits, wine, and other antiseptic liquors. The use of the bark, in this state of fever, being so agreeable to the established practice, our author thinks there is not the least occasion to insist upon the advantage which may accrue from it.

If the above method of cure be employed in the different states of fevers, during the first week, we are told, that it will very frequently remove them. But after they are once confirmed, all that can be expected from the bark is to obviate debility, counteract putrefaction, and to prevent fatal determinations to the viscera, which our author esteems the principal causes of death in fevers. Besides
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the method of cure above recommended, he uses, as auxiliaries along with the bark, *pediluvia*, or fomentations to the legs and feet; the free admission of cold air; taking the patients out of bed; light clothing; keeping the belly regular; the use of opiates, and blisters in some cases; and when symptoms of debility, or putrescency prevail, cold drinks with a sufficient proportion of generous wine.

In support of the practice recommended in the common states of continued fever, the author has related twenty-eight cases very minutely, in which it was attended with remarkable success.

In the fourth section, we are presented with the account of a variety of continued fever, which prevailed at *Newcastle* in the autumn of 1777. The disease began with shivering, listlessness, sickness at stomach, and universal pains. On the invasion, some complained of cough, stricture and oppression of the breast, attended with slight stitches of the sides, and wheezing respiration. In a few days, the strength and spirits were prostrated, the tongue became dry and brown, and the teeth were covered with a thick fur. A delirium
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and stupor soon appeared ; and these symptoms often remained for several days after the fever had vanished. About the eighth or tenth day of the disease, sometimes sooner and sometimes later, both red and white miliary eruptions appeared, which were frequently interspersed with *petechiæ*. In many, the countenance was bloated ; the eyes dull and blood-shot ; the throat covered with an *aphthous* crust ; and the stools involuntary, bilious, and putrid. In this fever, antimonials given in the beginning, together with paregoric elixir to appease the cough ; and afterwards, the bark in liberal doses, were attended with the happiest success. To illustrate the nature of this epidemic, twenty cases are subjoined.

This part of the work is concluded with an account of the success of the author's practice in fevers ; and a detail of the cases which terminated fatally under his care at the *Newcastle Dispensary* : By these it appears, that *two hundred and three* patients were admitted, labouring under continued fevers ; of whom, *one hundred and ninety-six* were discharged perfectly cured ; *six* died, and *one* was dismissed for
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being irregular, whose case afterwards terminated fatally.

The *second* Part of the Work contains observations on the Scarlet Fever, attended with ulcerated fore throat. The author introduces his account, with some remarks on the state of the air previous to, and during the prevalence of this epidemic. The disease, we are told, made its appearance at *Newcastle* in the beginning of June 1778, and soon after extended itself to many towns and villages in the neighbourhood, both in the counties of *Durham* and *Northumberland*. It was most frequent in August, September, and October; was upon the decline after December; but a few instances of the disease occurred still till August 1779.

The disease, we are informed, was peculiar to children and young persons; although several adults exposed to the contagion did not escape. The distemper was not prevalent in genteel families, but raged with great mortality amongst the lower class of people. The small-pox was also frequent at the same time, and some cases of the inflammatory fore throat, and erysipelas occurred. The measles appeared in January 1779, and succeeded this disease as an epidemic.

From a table which the author has annexed, it appears, that children of all ages under ten years, were most liable to the disease: that under twenty years of age, the number of males and females was almost equal; but that above this period, the number of females greatly exceeded that of males; a circumstance which he accounts for, from the former being more exposed to contagion, from being employed in attending the sick.

Having made these introductory observations, Dr Clark, in the first section, proceeds to the description of the disease. No epidemic, we are informed, varied more in different patients exposed to the same contagion than the scarlet fever attended with ulcerated sore throat. In some, it was so mild as to require little aid from medicine; whilst in others it was so malignant as to yield to no plan of treatment. The disease, in general, began with sickness, lassitude, and chilliness or shivering. The patient soon complained of headach, and pain of the throat. The skin became hot, the pulse very quick, often full and firm; but sometimes it was small and feeble, though generally hard. At night the fever ran high; and the patients were restless and often delirious.

Soon after the attack, the tonsils, *velum pendulum palati*, and *uvula*, appeared inflamed. The swelling and redness in these parts increased, and white floughs or ulcerations were soon discovered. Deglutition became painful, and often exceedingly difficult; and respiration quick, and frequently laborious. The breath was hot, though not offensive; the tongue was soon covered with a white fur; the mouth and *fauces* were loaded with viscid mucus, and this, together with the tumefaction of the throat, occasioned, even early in the disease, rattling breathing. Such was the usual progress of the disease during the first three days; but, in many cases, these symptoms were ushered in with vomiting, purging and delirium.

When the disease began with great severity, the scarlet efflorescence was often observed on the first day; but, in general, it did not make its appearance until the second or third day, and sometimes not until the fourth. The eruption consisted of innumerable little pimples running together, and tinging the skin of a dull red colour. The redness was first perceivable on the face, neck, and breast; and was often universally diffused over the body, which appeared, in some degree, tume-

fied. In others, the eruption was scattered here and there in blotches ; but the thighs, legs, and arms, were, in general, covered with it ; and the hands and fingers were often œdematous, and painful when pressed.

The duration of the efflorescence was uncertain ; it however, in general, turned brown in three or four days ; the skin became rough and peeled off in brawny scales, and very frequently in large, thick, jagged pieces. In one patient, the desquamation was so complete, that the nails cast off ; and in many we are told, that the cuticle kept peeling off after the 30th day of the disease.

When the disease was malignant, after the appearance of the eruption, the sloughs increased ; the maxillary and parotid glands swelled ; the eyes became dull and heavy ; the face and neck often bloated and œdematous ; and the patient either laboured under inquietude, delirium, or coma. In milder cases, after the desquamation of the cuticle, the fever subsided, the ulcerations healed, and the patients were speedily restored to health. Several, however, fell into anasarcaous swellings, and either true *hydrops pectoris* or dropfy of the cellular substance of the lungs. Others, after shewing signs of recovery,

ry, kept drooping, and, though free from fever in the day, passed hot and restless nights; the countenance became pale, the face puffy, and the maxillary and lymphatic glands of the neck continued swollen. Pale thin matter ran from the nose and ears, and at last suppurations were formed in the *Eustachian* tube, which destroyed the *tympanum*; and some patients lost the *auditory* bones.

When the sick applied late for assistance, the inflammation communicated to the *trachea* and lungs, occasioning hoarseness, incessant cough, wheezing and rattling respiration. A child, we are told, was admitted to the Dispensary in this situation, even so late as the 14th day of the disease; and our author saw several other miserable objects, who had survived to as late a period, with ulcerations, which had perforated the *velum pendulum*; and excoriations of the mouth, lips, and parts near the *anus*.

From the above description, Dr Clark observes, that the scarlet fever and sore throat has a great analogy to the *angina maligna*; he thinks indeed, they proceed from the same specific contagion; and in confirmation of this opinion, he gives us an account of the different states of the scarlet fever during its prevalence

prevalence at Newcastle. Of *thirty-six* patients, whom he attended in private practice, *twenty-six* had the scarlet fever, accompanied with mild ulcerations of the throat; in *one* it was succeeded by dropfy, and *nine* had the disease attended with every distinguishing symptom of the *angina maligna*; yet in all these cases the sources of contagion were apparently the same. Of *ninety-five* patients, who came under our author's care at the Dispensary, *forty-nine* had the scarlet fever with a mild ulcerated sore throat; in *twenty-two* the disease was succeeded by dropfy; and in *twenty-four* it was accompanied with *angina maligna*.

But in most patients, Dr Clark admits that the epidemic differed from former accounts of the *angina maligna*, or putrid sore throat in the following particulars: In the beginning it was accompanied with stronger action of the vessels, and the ulcerations were of milder nature; the patient seldom in the beginning complained of debility or faintness; the efflorescence was commonly more plentiful, and the desquamation of the cuticle more complete. In the *angina maligna*, as described by authors, the patients most commonly die on the third or fourth day of the disease; whereas in the scarlet fever, in the

cases which proved fatal, most of the patients protracted their miserable existence to the 13th, 15th, 16th, 17th, and sometimes even to the 19th, day of the disease; but above all, the scarlet fever frequently terminated in dropfy, a disease which no author mentions as being the consequence of the *angina maligna*.

The Author next enters upon the investigation of the cause of the disease, of which we cannot pretend to give a detail.

In the second section, Dr Clark presents us with a comparative view of the above epidemic, with the scarlet fever of authors, and the *angina maligna*, together with the various methods of cure which they have recommended. From this review which he has taken of the scarlet fever, as it has been observed in different parts of Europe, and of the *angina maligna*, he is farther convinced, that they ought not to be considered as distinct affections, but only as different *species* of the same disease. The *scarlet efflorescence* is a leading symptom, and in both diseases there is a determination of the morbid matter to the throat.

Our author, indeed, is sensible that plausible objections may be made to this opinion; and that it may require the united efforts of

the Faculty and future experience to ascertain its truth. It may be urged, that the *angina maligna* requires a very different treatment from several species of the scarlet fever: This circumstance, however, he thinks, is not sufficient to constitute a generic difference, for the same thing happens in the varieties of the small pox, which is well known to arise from specific contagion. It may be objected, that the scarlet fever only seizes patients once in their lives, whereas having the *angina maligna* once is no security against a second attack: This he allows to have some weight; though he very much doubts whether the *angina maligna* was ever attended with the scarlet efflorescence twice in the same patient; yet it is probable, that when the disease is epidemic, the same patient may have the affection of the throat repeatedly. But, without considering the subject in this extended point of view, he is certain, that the practice can never be properly guarded, and mistakes must constantly arise in treating diseases in so many respects different.

In the third section, our author proceeds to the cure. Although the disease was not new to him, having once before seen the scarlet fever

fever and sore throat epidemical ; yet, from the combination of the *inflammatory* and *putrid* symptoms, he confesses, that, in several instances, in the beginning of the epidemic, he was at a loss how to proceed. The great resemblance of the disease to the *angina maligna*, and the subjects being chiefly the young and the delicate, prevented all thoughts of bleeding. When called early, therefore, while the action of the vessels continued strong, after directing the patient's legs and feet to be bathed in warm water, he gave emetic tartar, in such doses as to vomit ; and afterwards to keep the belly open ; directing detergent gargles to be injected into the *fauces* milk-warm. By these means a great deal of bile was frequently voided ; the fever abated ; the throat rendered easier ; and the disease was either removed at once, or yielded to such preparations of the bark as the patients could be prevailed upon to take.

But whatever signs of inflammation might appear in the beginning, the disease, when malignant, soon assumed a putrid form. When called in this state of the disease, when it approached to the nature of the *angina maligna*, which was known from the appearance of the floughs, the bloated countenance, the feeble pulse,

pulse, and the swelling of the parotid glands, together with the tumefaction of the neck, our author was deterred from giving *emetic tartar*, and therefore placed his chief confidence in the Peruvian bark, antiseptic gargles, and a cordial regimen. In such a state of the disease, this method was commonly attended with success, when applied in time. But, in some instances, we are told, that from the combination of *putrid* and *inflammatory* symptoms, this powerful medicine was found ineffectual; and those invariably recovered best, whose cases would admit of antimonials in the beginning.

In the dropical state of the disease, our author directs purgatives and diuretics, with the use of the bark during intervals. The purgative from which he found most advantage, was calomel variously combined with squills. When this state of the disease was accompanied with fever, which, we are told, was frequently the case, he first gave emetic tartar in nauseating doses, and afterwards an infusion of the bark, made with boiling water, joined with *sal diureticus*, or *acetum scilliticum*. When the patients laboured under rattling breathing, and peripneumonic symptoms; besides these remedies, blisters were applied to the sides, and be-

twixt the shoulders. These methods, we are informed, were always attended with success, unless the patient laboured under a dropfy of the cellular substance of the lungs.

In the fourth section, Dr Clark illustrates the nature of this singular epidemic, and the method of cure, by the relation of particular histories. We are here presented with eleven cases in which the scarlet fever was attended with mild ulcerations of the throat; twelve cases in which it was attended with gangrenous ulcers of the throat; and lastly, six cases of the dropfical swellings consequent on the disease.

In the fifth section, we are presented with an account of the success of the practice, which our author has recommended in the scarlet fever; and with a relation of the unsuccessful cases, with a view farther to explain the malignant nature of the epidemic; and to afford the medical reader an opportunity of judging of the advantages of the plan of treatment. From this account it appears, that of *thirty-six* patients whom the author attended in private practice, *thirty-two* were restored to health, and *four* died: And of *ninety-five* who came under his care at the Dispensary, *eighty-one* returned thanks for their cure, *one* was discharged for irregularity,

irregularity, and in *thirteen* the disease terminated fatally.

Our author concludes this part of the work with the following inferences, which we shall transcribe, as they appear to us to have derived their origin from careful observation.

1. "The scarlet fever is a contagious disease, and almost always attended with a sore throat, which is sometimes erysipelatous, sometimes ulcerated, and sometimes of a putrid and gangrenous nature. On the 1st, 2d, 3d, or 4th day, a red eruption appears upon the skin, and after continuing for three, four, or more days, goes off in branny or thick broad scales; and after the cessation of fever, the disease frequently terminates in dropy."

2. "The scarlet fever may appear at any time of the year, but it most commonly begins in summer or autumn; and generally continues throughout the winter."

3. "Although great diversity obtains in the scarlet fever, yet the most important distinctions in practice are to ascertain, 1. When the disease is of an inflammatory nature; and, 2. When it is attended with a disposition in the throat in particular, and in the system in general, to putrefaction."

4. "In

4. "In the treatment of the mild species of scarlet fever, as described by Sydenham, little more is necessary than a proper attention to regimen."

5. "In the scarlet fever, attended with erysipelatous inflammation of the throat, without floughs or ulcerations, antimonials given in such doses as to prove gently emetic, an antiphlogistic regimen, and detergent gargles, are the chief remedies to be depended on."

6. "In the scarlet fever attended with a mild ulcerated fore throat, in the beginning, and while the action of the vessels is strong, the same remedies as above are indispensibly requisite; and as soon as the action of the vessels is abated, the chief dependence ought to be placed in the Peruvian bark."

7. "When the scarlet fever is attended with gangrenous ulcers in the throat, and a disposition to putrefaction in the system, the bark ought to be prescribed in large doses, and an antiseptic cordial regimen pursued from the beginning."

8. "Though the above general rules, with respect to the method of cure, are the result of experience; yet, in a disease which assumes such a variety of symptoms and appearances, the proper method of treating particular cases must

must depend upon the sagacity and judgment of the Physician, and a careful attention to the nature of the epidemic."

To this part of Dr Clark's Work is added a Postscript, containing a short account of the Scarlet Fever and Sore Throat, from the treatise lately published by Dr Withering, and from the second volume of Dr Cullen's *First Lines of the Practice of Physic*; and we are also here presented with an analysis of Dr Cotton's letter to Dr Mead *on a particular Scarlet Fever* prevalent at *St Alban's* near *London*, in the year 1748; which seems to have been essentially the same epidemic so well described by Dr Fothergill under the title of the *Putrid Sore Throat*. Our author introduces Dr Cotton's account with more particular pleasure, as their sentiments perfectly coincide concerning the impropriety of altering the name of the disease.

This Work is concluded with an Appendix, containing tables of the diseases of the patients admitted to the Newcastle Dispensary under the author's care, during the space of two years, together with remarks on the method of improving medical returns. For his remarks, however, on this subject, after the length to which the present article has already

already extended, we must now refer our reader to the Work itself. And although we have endeavoured to give a pretty full account of it, yet we may conclude with observing, that it every where abounds with observations of such importance in practice, as cannot fail amply to reward the labour of a careful perusal.

X.

Ed. Sandifort, *Medicinæ, Anatomæ, et Chirurgiæ, in Academia Batava, quæ Leidæ est, professoris, Observationes Anatomico-Pathologiæ ; Liber tertius. 4to. Lugduni Batavorum.*

IN this publication we are favoured with a continuation of ingenious observations, the preceding parts of which were communicated to the public a considerable time ago.

The first article contains a very particular description of an umbilical hernia in a child who died almost immediately after birth. The mother in the third month of pregnancy had received a violent fall upon ice, to which severe pains succeeded, and continued till the end of the seventh month, when she was delivered of this child.

Our author having obtained the liberty of dissecting the body, he not only gives us a
most

most accurate account of the different appearances observed in it; but, to render the whole as intelligible as possible, a complete set of plates are subjoined, in which very exact views of the different parts are exhibited.

In this umbilical tumour, the liver, spleen, and part of the stomach and intestines, were contained, and various preternatural appearances were detected in the heart, kidneys, and bladder; but the nature of this publication will not admit of our entering into such a particular detail of these as would be necessary for conveying an exact knowledge of the several particulars.

In chapter second, we are favoured with a very minute account of the dissection of a body, in which a great proportion of the pia mater was found ossified; no detail however is given of the effects produced by this circumstance, during the latter part of the patient's life.

Chapter third, contains the particulars of a case of suppression of urine which ended fatally, and on dissection a stone impacted in the urethra was discovered to be the cause.

Chapter fourth is entitled, "*De calculo lacrymarum viis exsecto;*" of this the following are the particulars:

A young lady had complained for some time of a small tumour on the under palpebra, and near the internal angle of her left eye. It was attended with some pain, a constant discharge of tears over the cheek, and now and then, especially in the morning, a quantity of purulent matter was evacuated ; various remedies had been tried, but with no kind of advantage.

On examining the tumour, it was found to be hard, and a small orifice was observed, at a little distance from the *punctum* of that eyelid, from whence a quantity of pus was discharged by pressure ; but no evacuation of this kind had any influence in diminishing the size of the swelling.

On different trials it was found, that although the tears still came over the cheek, yet the passage into the nose was not rendered altogether impervious, as by *Anell's* instruments, injections were made to pass from the *punctum* into the nose. But the tumour having now continued for a considerable time, and there being no appearance of removing it by external applications, it was at last determined to lay it open to the bottom. On doing so, a small pyriform stone was extracted, and the

fore being properly dressed, a complete cure was very quickly obtained.

Chapter fifth, enumerates the particulars of a dissection, in which the peritoneum was not only thickened to a great degree, but in some parts was even in a cartilaginous state; and the liver, spleen, stomach, large and small intestines, were found so firmly united into one mass, as to render it impossible, even by dissection, to separate the one from the other.

Chapter sixth, contains an account of an abortion in the fifth month of pregnancy.

Chapter seventh, gives the particulars of a dissection, in which the two kidneys were found firmly united into one mass, but with all the parts of each perfectly distinct.

Chapter eighth, enumerates various instances of two or more of the bones of the skull being firmly united, either from the sutures being altogether obliterated, or from their having been entirely wanting.

Chapter ninth, is entitled, “*De ossiculis futurarum.*” Here our author takes occasion to prove, that the discovery of the ossa triquetra has in general been very improperly attributed to *Wormius*, for they were distinctly described by Bartholin at least twelve years before *Wormius* pretends to have first seen them

them ; the first account given of them by the latter not having been printed till the year 1640 ; whereas it is evident that Bartholin had observed them in the year 1628. Various instances are here related by our author, of skulls, in his collection, remarkable for the number and size of the bones.

The tenth and last section, is entitled, “ De ossibus, diverso modo, a solita confirmatione abludentibus.”

As anatomists are daily discovering *lusus naturæ*, in dissecting the softer parts of the body ; so when we examine the skeleton with attention, various irregularities in its conformation are detected. Our author here presents us with a number of instances of this kind, which from time to time have occurred to him in the formation of his collection.

XI.

A Physical Inquiry into the Cause and Cure of Fevers. By Garret Hufsey, M. D. 8vo. Dublin.

AN accurate investigation of the remote or occasional causes of fevers, being highly necessary in practice, our author, before proceeding to the immediate consideration of

these disorders, gives a very minute detail of such circumstances as, under different modifications, are to be considered as the most frequent causes of febrile affections.

These are, air, food, exercise and inaction; sleep and watchfulness; the natural evacuations of the body, with their several states of obstruction; and lastly, the various passions by which the body is affected.

After considering the general properties of air, our author concludes that part of his subject with some remarks upon fixed air. The term *fixed air*, he observes, is in general very improperly used. Whenever the integral parts of a simple element are closely combined, such as fire, water, air and earth, constituting by their union a complex body, neither of them can retain, in such situations, these properties which specify them singly. Air, in particular, loses that compressibility and elastic force, which distinguish it in a state of aggregation. We call it then *fixed air*, and the expression is very proper; but it is difficult to conceive why the same term should be applied to that vapour which arises from the decomposition of any body. This vapour, far from being fixed, is volatile; and, far from being formed only of air, is a compound
of

of several substances ; for the same force, our author remarks, which is sufficient to disunite the constituent parts of any body, is sufficient to dissipate in the form of vapour such of them as are volatile ; and hence, if fixed air and vapour were synonymous terms, we should admit as many species of the former as there are bodies that contain it.

Dr Hufsey differs widely from those who consider fixed air as the bond of union of bodies. He considers every particle of a body to be equally necessary with fixed air, for the union or existence of that body ; for as all elementary particles have a reciprocal attraction, it must be an abuse of words, he thinks, to call any one of them the cement or bond of union.

It is true, he says, that lime and the calces of metals, recover their original nature, when they receive the vapour which arises from the decomposition of another body. If, indeed, calcination deprived metals, and calcareous stones, of nothing else than their elementary air, and if the vapour that reduces them contained nothing else, in that case there would be some foundation for admitting the cementing quality of this element. But neither of these suppositions are well founded : For the

operation necessary for converting metals and calcareous earths into a calx, deprives them of other volatile principles as well as of air; and the vapour which reduces them, contains not only air, but the rest of what they had lost. As a proof of this, our author remarks, that of all the vapours used in such processes there are none so fit as those which are inflammable, and which of course are replete with elementary fire or phlogiston.

As bodies in the mineral kingdom recover their primitive form, when they receive the volatile principles which they had lost during their decomposition, it has occurred to some, that, in similar circumstances, the same change would be wrought in the animal and vegetable substances which are decomposed by putrefaction. To determine whether there really be any analogy of this sort, a train of experiments have been made; and upon a partial view, it may seem that the event has been favourable to the theory in question. But, on a more minute investigation, our author is of opinion, that all the antiseptic effects which have usually been attributed to fixed air, depend almost entirely on the nature of the particles with which the air happens to be impregnated, and not merely upon

the

the air itself. For although putrescent, vegetable and animal substances, have been rendered sweet by some vapours, yet others have the power of producing quite a contrary effect, as every one will be convinced, who leaves a piece of fresh meat exposed to the corrupted steams of any body in an actual state of putrefaction.

This opinion is much confirmed, when we consider, that the substances which afford the greatest proportion of an antiseptic vapour, are most commonly antiseptic themselves in a very high degree. Such are mineral acids, and the products of fermentation, tartar, vinegar, and spirits of wine ; and if the antiseptic powers of any body depended merely on the proportion of fixed air contained in it, considerable deviations ought necessarily to be introduced in various points of the present established practice. In that case, our author remarks, that salt beef, which is generally supposed to be very productive of scurvy, would be had recourse to as an excellent remedy for its cure.

In treating of digestion, various arguments are introduced against the doctrine of fermentation : At the same time, that attempts are made to prove, that this process depends al-

most solely, if not entirely, on the solvent powers of the stomach and menstruum contained in it. So far from the fermenting process being necessary for digestion, it never occurs, our author supposes, but as a concomitant of indigestion; the symptoms and appearances of a complete indigestion being exactly such as are observed in alimentary mixtures in a state of fermentation.

In considering the several occasional causes of fever, Dr Hufley endeavours to prove, that they all tend, in a greater or lesser degree, to the production of such a state of the fluids, as must necessarily occasion an obstruction to their circulation; and it is this obstruction, together with the reaction of the blood-vessels, that must thereby be produced, which he thinks constitutes the generical nature of fever. With respect to the specific differences of fever, he has no doubt of their depending solely upon the particular changes induced upon the circulating fluids; which, however different from one another, have one thing in common, that of disturbing the freedom of circulation.

The only changes which our author supposes can be made in these fluids, so as to render them unfit for a due circulation, may be
reduced

reduced to three, *viz.* a viscidness of the chyle; a coagulation of the serum; and a broken texture of the red globules. It may seem, he says, that the two first changes bear the same signification; there is, however, he observes, a real difference, for when the chyle is viscid, all the rest of the humours must be poor and ropy; whereas when the serum is coagulated, the blood-globules have a great degree of firmness. And again, the fibres are weak and relaxed in the first case; but in the second, they are strong and elastic; besides, the chyle, though viscid, can never be made hard, whilst the serum may be coagulated so as nearly to acquire the consistency of leather.

Continued fevers are divided by our author into the inflammatory, the putrid, and compound fevers. The first of these, he supposes, proceeds in every instance from a sickness of the blood; the putrid fever, from a dissolution of the humours; and the compound fever, from a combination of the two.

As the method of cure in every fever is to be regulated entirely by an accurate knowledge of the cause; and as the cause can never be exactly detected but from the appearance of the blood; we are desired, therefore, on the first formation of fever, always to draw off a
small

small quantity of blood. If the blood appears firm and fizy, there can be no room to doubt of the fever being of the inflammatory kind ; if it is of a loose, soft, broken texture, then the fever is evidently of the putrid kind ; and again, when the blood, after cooling, is covered with a thin pellicle, which does not resist the pressure of the finger, and when the blood which lies under this pellicle is not quite so dense as that which is drawn in a fever purely inflammatory, in that case, the fever is denominated compound.

In the cure of *inflammatory fever*, blood-letting is recommended as the remedy chiefly to be depended on ; and the quantity to be discharged, is directed to be regulated, not only by the violence of the symptoms, but by the consistency of the size ; which last circumstance, our author seems to consider as the most material index for all our practice, in the treatment of this species of fever.

Together with blood-letting, cooling, laxative, diuretic medicines are recommended ; and particularly, such articles as are known most effectually to assist perspiration : The grand object of all these being the expulsion, by the several outlets, of the fizy particles of
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the blood, which are too grofs to move easily forward in the common courfe of circulation.

Warm alexipharmac medicines are much condemned by our author, as tending, by the increafe of heat which they occafion, to produce a farther inſpiffation of the humours. But blifters, although they do probably produce a tranſitory increafe of heat, and from that circumſtance might be ſuppoſed to be improperly uſed here; yet it is certain, our author remarks, that they give great relief in inflammatory fevers; and this they do, he ſuppoſes, by the active parts of the cantharides being abſorbed into the circulation, where, by their attenuating properties, the ſiſineſs of the humours comes to be conſiderably diminiſhed.

For effecting a total diſſipation of this ſiſineſs of the blood, dilution with watery drinks is much recommended. Water alone, however, not acting as a proper ſolvent for ſiſe, a quantity of ſaccharine, or acid vegetable juices, are deſired to be added to it.

In the cure of *putrid fevers*, blood-letting carried to any extent is much condemned by our author; but a ſmall bleeding at firſt, he conſiders as abſolutely neceſſary; for unleſs by ſeeing the blood, he thinks it is impoſſible,

at an early period of the disease, to form a true diagnostic.

Gentle emetics, and laxatives, are desired to be given at proper intervals, through the whole course of the disease, so as effectually to evacuate those putrescent humours which, in such fevers, are always collected in the stomach and bowels. No violent medicines, however, should be used ; and we are here particularly cautioned against the use of James's powder, the operation of which, in such fevers, our author considers as highly pernicious.

Blisters, by the alkaline particles of cantharides which they introduce to the circulation, being very apt to produce a dissolution of the blood, are therefore condemned as improper in every instance of putrid fever ; excepting perhaps in the beginning of the disease, when, by the drain they produce, and which is frequently kept up during the course of the fever, they may be of some service ; and, as at this period the dissolution is not supposed to be much advanced, they may be had recourse to, Dr Hufsey imagines, without any kind of risk.

In the compound fever, which our author considers as a complication of the inflammatory and putrid fevers, the first indication of cure which he recommends, is to attenuate the si-

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zinefs of the blood, which, in the beginning of the difeafe, always prevails ; and the fecond, is to guard againft the progrefs of the putrefactive ferment, which, in the more advanced ftages of this fever, is always fure to occur. To cure the compound fever, we fhould begin with thofe means which we employ advantageoufly in the treatment of fevers purely inflammatory ; and ought to end with thofe which are found fuccefsful in the cure of what is merely putrid.

Dr Hufley concludes his obfervations on every fpecies of fever, with different cafes, by which he endeavours to eftablifh the propriety of the principles laid down. And having made fome remarks on the nature and cure of intermittent and remittent fevers, he concludes the whole with a fhort but accurate differtation on the various febrile affections to which lying-in women are liable.

XII.

Experiments establishing a Criterion between Mucous and Purulent Matter ; and an Account of the retrograde Motions of the absorbent Vessels of animal Bodies in some Diseases. 8vo. Lichfield.

THE work before us was written some years ago by a very ingenious young gentleman, the late Mr Charles Darwin of Lichfield. These papers are now published from the manuscripts which he left behind him. The editor of the present work, Dr Darwin of Lichfield, informs us, in a note, that he has in his possession, some other ingenious papers by the same author, which it is to be hoped will soon be published.

The present publication, as must appear from the title, consists of two Parts. The first Part, which contains the experiments establishing a criterion between pus and mucus, was presented to the Æsculapian Society of Edinburgh in the year 1778, who unanimously conferred upon the author of it their prize-medal for that year. The experiments themselves do not admit of an analysis; and, of the conclusions

conclusions drawn from them, we have already given a full account in a former number of this Work. It will now, therefore, be sufficient to repeat the general conclusion, which is in the following words: When any one wishes to ascertain the composition of expectorated matter, let him dissolve it in vitriolic acid, or in caustic alkaline lixivium; and then add pure water to both solutions. If there be a fair precipitation in each, he may be assured that some pus is present. If in neither a precipitation occurs, it is a certain test, that the matter is entirely mucus. And if it cannot be made to dissolve in the alkaline lixivium, there is also reason to believe that it is pus.

In the second, which is by much the most considerable Part of this Work, Mr Darwin endeavours to shew, that the phænomena of various diseases can only be explained upon the supposition of a retrograde motion of the absorbent vessels.

After giving, in the first section, a distinct account of the absorbent system in general, he proceeds to shew, in the second, that the valves of the absorbent vessels may suffer their fluids to regurgitate in some diseases. He observes, that the many valves which occur in the progress of the lymphatic and lacteal vessels, would indeed

indeed seem insuperable objections to the regurgitation of their contents ; but as mercury, water, or fuet, can be easily made to pass through these vessels in a contrary direction to the natural course of their fluids, and as these vessels, with their valves, are undoubtedly endowed with life, he thinks it probable, in some diseases where the valves and vessels are stimulated into unnatural exertions, or are become paralytic, that during the diastole of the part of the vessel to which the valve is attached, the valve may not be so completely closed as to prevent the relapse of the lymph or chyle.

The mouths of the lymphatics, he observes too, seem to admit water to pass through them after death, more easily the inverted way than in the natural course, since an inverted bladder readily lets out the water with which it is filled. And as the strong valves with which both orifices of the stomach are furnished, and likewise the valve of the colon, are frequently known to admit of a regurgitation of the contents of these viscera, the possibility of such an occurrence in the lymphatic system is thereby put beyond a doubt. By Dr Haller's microscopic experiments too, it is rendered certain, that in the veins which we know to be endowed with valves, a regurgitation of their contents

tents is very easily induced ; he having observed, that in dying animals, a retrograde motion of the blood is produced from the heart itself to the very extremity of the limbs. From the strictest analogy, therefore, our Author concludes, that if the course of the fluids in the lymphatic vessels could be subjected to microscopic observation, they would also, in the diseased state of the animal, be seen to repass the valves, and the mouths of those vessels which had previously absorbed them.

In section third, our Author endeavours to shew, that as the intestinal absorbents are now known to join with the urinary lymphatics by frequent anastomoses ; we are hence, on the supposition of a retrograde motion of these vessels, enabled to account for the daily instances that occur, of fluids passing from the stomach into the bladder much more quickly than they could possibly do through the common course of the circulation. In Etmuller's Works, various instances are recorded, where simple water, wine, wine with sugar, and emulsions, were discharged, by urine, unchanged.

Dr *Kratzenstein* put ligatures on the ureters of a dog, and then emptied the bladder by a

catheter ; yet, in a little time the dog drank greedily and made a quantity of water. And in the Philosophical Transactions for the year 1670, a similar experiment is related with the same event. The following experiment too, which was made under the eye of our Author, tends greatly, he thinks, to confirm this opinion.

June 14. 1772. A friend of Mr Darwin's, on drinking repeatedly of cold small punch, till he began to be intoxicated, made a quantity of colourless urine. He then drank about two drams of nitre dissolved in some of the punch, and eat about two stalks of boiled asparagus. On continuing to drink more of the punch, the next urine that he made was quite clear and without smell ; but, in a little time, another quantity was made, which was not quite so colourless, and had a strong smell of the asparagus. He then lost about four ounces of blood from the arm, but the smell of asparagus was not at all perceptible in the blood, neither when fresh taken, nor the next morning ; yet this smell was strongly perceived in the urine which was made just before the blood was taken from the arm.

Some bibulous paper, moistened in the serum of this blood, and suffered to dry, shewed

no signs of nitre by its manner of burning ; but some of the same paper, moistened in the urine, and dried, on being ignited, evidently showed the presence of nitre. This blood and the urine stood for some days exposed to the sun in the open air, till they were evaporated to about a fourth of their original quantity, and began to stink. The paper which was then moistened with the concentrated urine, shewed the presence of much nitre by its manner of burning, whilst that moistened with the blood shewed no such appearance. Hence our Author thinks it may be clearly inferred, that certain fluids, at the beginning of intoxication, find another passage to the bladder than the long course of the arterial circulation.

In section fourth, the doctrine here advanced of a retrograde motion of the lymphatics, is applied towards the explanation of the phenomena of diabetes and of some diarrhœas. All the branches of the lymphatic system, our Author observes, have a certain sympathy with each other, insomuch, that when a branch is stimulated into any unusual motion, some other branch has its motions either increased or decreased, or inverted at the same

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time. Thus, when one drinks a moderate quantity of vinous spirit, the whole system acts with more energy, by concert with the stomach and intestines, as is seen from the glow on the skin, and the increase of strength and activity ; but when a greater quantity of this inebriating material is drunk, at the same time that the lacteals are excited into greater action to absorb it, the urinary branches of the absorbents which are connected with the lacteals by many anastomoses, may have their motions inverted, and a great quantity of pale unanimalised urine will be discharged.

If this ingurgitation of too much vinous spirit shall often occur, the urinary branch of absorbents at length gains a habit of inverting its motions whenever the lacteals are much stimulated ; and the whole, or a great part of the chyle, is thus carried to the bladder, without entering the circulation, and the body becomes emaciated. In this species of the disease, which may be termed the *chyliferous diabetes*, the urine is sweet, and of the colour of whey ; which are circumstances that distinguish it sufficiently from every other species of the disorder.

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The purging stools occasioned by exposing the naked body to cold air, or sprinkling it with cold water, originate, our Author remarks, from a similar cause; for the mouths of the cutaneous lymphatics, being suddenly exposed to cold, become torpid, and cease, or nearly cease, to act; whilst, by some kind of sympathy, the intestinal lymphatics invert their motions, and immediately what was previously absorbed is returned into the intestines. An obstructed perspiration merely, Mr Darwin observes, is not sufficient to account for this phænomenon, as it frequently happens, that at the very instant the body is exposed to the effects of cold air, an unusual movement is felt in the bowels, which could not, he thinks, from that circumstance, be so instantaneously produced.

In sections fifth, sixth, and seventh, our Author proceeds to explain upon the same principle, the phænomena of dropfies, of cold sweats, and of the translations of matter, of chyle, of milk, and of urine. The operation of purging drugs, applied outwardly, is thus likewise accounted for.

In section eighth, various circumstances are enumerated, by which the fluids that are

effused by the retrograde motions of the absorbent vessels may be distinguished. Section ninth, contains a synopsis of diseases, supposed by our Author to originate from the retrograde motions of the absorbent vessels. Section tenth, contains answers to such objections as our Author supposes may be made to his theory; and in the eleventh section, he enumerates various causes which induce the retrograde motions of animal vessels, and the medicines by which the natural motions may be restored.

As Mr Darwin considers debility as the principal cause of the retrograde motion of vessels; and as animal debility, he thinks, is owing to a defect of stimulus, or of irritability; when the vascular muscles, therefore, are not excited into their due action by the natural stimuli, we should exhibit, he remarks, those medicines which possess a still greater degree of stimulus; amongst these are, the foetids, volatile aromatics, bitters, metallic salts, opiates, wine, moderate exercise, cheerfulness of mind, change of air to a warmer country, and perhaps occasionally the external stimulus of blisters.

Towards

Towards the end of this publication, several cases of dropfical complaints are related, in which the fox-glove, or *digitalis purpurea*, was exhibited. In the greatest part of these, this medicine acted violently both as a cathartic, emetic, and diuretic; in some, these evacuations proved salutary, but in others they either had no apparent influence, or produced no other effect than that of reducing and weakening the patient's strength. The two following cases, selected from the whole, will serve as examples of its effects.

A lady between forty and fifty years of age, who had been indisposed some time, was then seized with cough and fever, and afterwards expectorated much digested mucus. This expectoration suddenly ceased, and a considerable difficulty of breathing supervened, with a pulse very irregular both in velocity and strength; she was much distressed at first lying down, and at first rising; but, after a minute or two, bore either of these attitudes with ease. She had no pain or numbness in her arms; she had no hectic fever, nor any cold shiverings, and the urine was in due quantity, and of the natural colour.

The difficulty of breathing was twice considerably relieved by small doses of ipecacuanha, which operated upwards and downwards, but it returned in a few days. She was then directed to take the fox-glove in decoction, prepared by boiling four ounces of the fresh leaves, from two pints of water to one pint, to which was added two ounces of vinous spirit; she took three large spoonfuls of this mixture every two hours, till she had taken it four times; a continued sickness supervened, with frequent vomitings, and a copious flow of urine; these evacuations continued at intervals for two or three days, and relieved the difficulty of breathing. She had some relapses afterwards, which were again relieved by the repetition of the decoction of fox-glove.

A tradesman about fifty years of age, became weak and short of breath, especially on increase of motion, with pain in one arm, about the insertion of the biceps muscle. In the night he sometimes made an unusual quantity of pale urine. He took calomel, alum, and Peruvian bark, but all his symptoms increased. His legs began to swell considerably; his breathing became more difficult, and he could

could not lie down in bed, but all this time he made a due quantity of straw-coloured urine.

The decoction of fox-glove was given as in the preceding case ; it operated chiefly by purging, and seemed to relieve his breathing for a day or two ; but it also seemed to contribute to weaken him. He became some weeks thereafter universally dropfical, and died comatose.

We have thus endeavoured to give some account of the doctrine contained in this Essay ; and although perhaps but few of our readers may at first be disposed to adopt this idea of retrograde motion in the absorbents, yet we are persuaded they will in general admit, that it is both new and ingenious. But, for a more satisfactory view of the opinion, as well as of the arguments by which it is supported, we must refer them to the Work itself. And it will be no unpleasing gratification to their curiosity, to peruse a short account of the life of the Author, which the Editor has annexed to the publication.

XIII.

Clinical Experiments, Histories and Dissections.

By Francis Home, M. D. *one of his Majesty's Physicians, Fellow of the Royal College of Physicians of Edinburgh, and Professor of Materia Medica in the University of Edinburgh.* 8vo. Edinburgh.

THE Work before us, which we formerly took an opportunity of announcing, contains the result of industrious and accurate observation for the space of several years. While ingenious speculations afford pleasure to the inquisitive mind, the united efforts of unwearied attention and solid judgment, on subjects strictly practical, cannot fail to afford the highest satisfaction to those engaged in the actual exercise of the profession. Such however is the nature of the volume now before us; and we have little doubt that the conclusions here drawn from extensive experience, will be found conducive to the improvement of medicine.

It has long been a matter of dispute, and it is unquestionably of the utmost importance in the practice of physic, to determine at what time

time the Peruvian bark may be exhibited with greatest advantage in the cure of intermittent fevers. On this subject, as the result of many trials, 14 of which are here particularly related, Dr Home concludes, that the Peruvian bark is more efficacious in stopping the paroxysms of an intermittent, when it is given soon after a fit, than when exhibited a short time before it. And he even concludes, that from this latter mode of exhibition, it adds to the severity of the succeeding paroxysm.

From observing that the Peruvian bark is most successful when it is given at the greatest distance from the fit, Dr Home infers, that a considerable time is required for its operation; and from this he thinks it highly probable, that its effects do not arise from an action on the stomach, or on its nerves alone, but principally depend on its entering the vascular system.

He finds, that there is no difference in the effects of bark given after the fit, whether the type be quotidian or tertian. He thinks, therefore, that the distinctions of intermittents, so often mentioned by medical writers, are of little use in practice. And as the different kinds so often alternate with each other, he concludes,

concludes, that the cause of their different appearances is not owing to different miasmata, but probably to some more changeable circumstances of the patient.

In the second section, the Author relates many experiments made with different remedies in the typhus nervosus. From nine different trials with the tincture of cantharides, it appears, that this medicine taken to the extent of 20 drops thrice a-day, is a very safe remedy. He thinks, that in most of the cases there could be no doubt that the medicine was of great utility; but he observes, that more experiments are still required to ascertain its value. From his experiments with blisters, he concludes, that they are of little use in typhus. Yet he considers them as of the greatest utility in relieving the severe headach which always attends it, when they are applied to the temples. And this mode of application, while it is in many respects more convenient than blisters to the head, he thinks, supercedes the use of that practice.

From the result of many trials made with antimonial medicines, Dr Home concludes, that James's powder is a more valuable remedy in typhus than emetic tartar. He finds, that
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the effects of tartar emetic, as an evacuant in particular, are never stronger than those of James's powder ; and that it is by no means so useful in typhus as in synochus. From this circumstance, without pretending to settle the mode of operation, he thinks we may negatively conclude, that antimonials do not cure fevers by evacuation : From several circumstances, he infers that it is rather by a general stimulus.

From his trials with opiates, he concludes, that they procure rest in typhus, without any disadvantages attending their use. He thinks, that in every case of such fevers, opium is more to be depended upon than camphor, castor, or the sal sedativum Hombergii ; and particularly, that it is more necessary and more useful than these sedatives where the patient is affected with looseness or cough.

In the sixth section, Dr Home relates many experiments upon some remedies used in phthisis pulmonalis. From three trials with the vitriolic acid, our Author concludes, that little advantage can be obtained from it. He finds, that it tends very much to promote purging, even although joined with mucilage of gum arabic, and accompanied with opiates. From

a trial made with alum, he found that it quickened the pulse without producing any good effect ; and that it had no power in curing the disease. Former experience had led him to consider the Peruvian bark as being hurtful in phthisis, and this opinion he found confirmed by another trial. From starch, as a demulcent and incrassant, he found some benefit ; and he thinks that it may be useful where the expectoration is thin, in small quantity, and attended with much tickling in the trachea and fauces. From different trials with mephitic air, it appeared to be of some use : But he thinks that more experiments are necessary to ascertain its effects, and the degree of credit which it deserves.

In the seventh section, Dr Home relates three histories of a singular affection, the *melæna* or *morbus niger*. From these histories he concludes, that the disease does not depend upon the *atra bilis*, as has commonly been imagined, but that it is owing to blood effused from the *meseraic* veins. In the three cases which are here related, although the crisis did not happen in all of them exactly on the same day, yet there appeared to be a very great coincidence in point of time with the crisis of fevers

fevers in general, one terminating on the eighth, and two others on the fourteenth day. The first patient was cured by the continuation of purging, and the second by sweat and thick urine ; but the third had no evident critical evacuation.

With respect to the cure, he considers bleeding as necessary, if the pulse will admit of it ; he thinks that emetics are always hurtful. He concludes, that gentle laxatives are beneficial ; and he found benefit from the vitriolic acid, when given with mucilage of gum arabic, which he recommends as being the article best fitted for covering its taste, and diminishing its effects on the primæ viæ.

From several experiments which he made with the rhododendron chrysanthemum of the Pharmacopœa Rossica, which has lately been very warmly recommended for the cure of rheumatism, he found that it affected the head with pain and giddiness ; that it produced nausea, and sometimes opened the belly ; and that it produced plentiful sweat when the state was not inflammatory. He found that it produced a disposition to sleep ; and he pronounces it one of the most powerful sedatives which has yet been discovered. For, in most of the
 trials,

trials, it made the pulse remarkably slow, and in one reduced it to thirty-eight strokes in the minute. He considers it however as being, in the cure of rheumatism, a medicine much inferior to several others, particularly to the pulvis Doveri.

In the tenth section, Dr Home relates several trials made with Sir Hans Sloan's ointment for the cure of the leucoma. This ointment is prepared in the following manner:

R \acute{x} . Tutt. ppt. unc. ss. lap. hæmat. ppt. scrup. i. aloes succotr. levig. gr. vi. Margarit. ppt. gr. ii. leviga optime simul et misce cum axung. viper. q. s. ut f. liniment. ophthalmicum. Of this ointment a little was applied twice a-day, if there was any tendency to inflammation, and if not, as often as they pleased. In the trials which he made with this ointment, although at first it excited considerable inflammation, yet it had at last the effect of removing the speck, and restoring to the cornea its natural pellucidity; from which Dr Home concludes, that it is a medicine of much efficacy in a disease otherwise incurable.

In the eleventh section, Dr Home gives an account of a great variety of experiments made with different antispasmodics. As an antispasmodic,

modic, he employed blood-letting with success in allaying idiopathic singultus; and he thinks that it may be considered as a general remedy in the cure of that disease. From his trials with valerian, he is inclined to pronounce it a weak and often a hurtful medicine. From the experiments also which he made with the *folia aurantiorum*, he is inclined to call in question the antispasmodic powers of that medicine. He draws also the same conclusion with regard to the *cardamine pratensis* or cuckow flower.

With regard to the comparative powers of antispasmodics in general, he thinks they may be referred to four classes. Under the first and weakest, he includes *fol. aurant. flor. cardamin. artemisia, peonia, viscus quercinus, extractum hyoscyami, castor, musk, cup. ammon. and electricity*. To the second class, he refers *camphora, calx of zinc, and blisters*; to the third, *assafoetida, æther, and mercury*; and to the fourth, *Peruvian bark, opium, and blood-letting*. But he concludes with observing, that particular antispasmodics are suited to the cure of particular spasmodic diseases; and he remarks, that although his experiments have shewn this fact, they have not discovered the cause on which it depends.

As a remedy in paralytic cases, he made trial in fix instances with the *Doronicum Germanicum*, or German leopard's bane, the *arnica montana* of Linnæus, which has of late been highly extolled by Dr Collins of Vienna, and some other Physicians. From these trials, however, he is not disposed to form a very favourable judgment of it ; yet from its stimulating power in the *primæ viæ*, and on the affected muscles, he thinks there is reason to hope that it will be of some service. From the hot bath, when used to as great a degree of heat as the patients were able to bear it, he derived no benefit ; and he is inclined to think, that the good effects derived from natural hot baths may depend on mephitic air or other impregnations.

In the twelfth section, seven cases are related of obstinate sciatica, five of which were cured, and the two others relieved by means of the *oleum terebinthinæ*. It was exhibited according to the following formula.

℞. Ol. tereb. drach. ii. mell. opt. unc. i. M. f. linct. cap. coch. parv. mane et vesp. superbibendo haust. potus communis tepidi. The sensible operation which Dr Home observed from this medicine was various. It often produced

duced a sense of heat in the stomach, and diminished the appetite. It heated the part affected, and raised a peculiar sensation of pain there. It sometimes proved diuretic; and when used in a great quantity, it brought on strangury. Dr Home observes, that it is difficult to explain its operation; but, from the peculiar sensation of heat and pain which is felt in the part soon after each dose, he is inclined to think that it acts topically.

In cases of lumbago, a disease nearly allied to sciatica, Dr Home derived great benefit from the following application.

R. Camph. scrup. i. dissolut. in ol. tereb. drach. ii. Sal cor. cerv. gr. xv. Pulv. sem. cym. drach. ii. dein add. ung. nervin. unc. ss. sapon. nigr. com. unc. i. M. f. linim. extende super alutam. et applic. lumbis. This liniment, which was renewed every three days, produced salutary effects in a short time.

In the seventeenth section, Dr Home relates many experiments made with different remedies in different cases of dropsy. After having given a short history of the introduction of cream of tartar against such affections, he relates particularly its effects in twenty cases in which he tried it. Of these, it produced a

complete cure in fourteen ; and he remarks, that although the distemper be very liable to suffer a relapse, yet this happened in none of these.

To determine its mode of operation, from ascertaining which, he thinks, we may most certainly secure success from the use of it, he states the visible effects of this medicine. In one or two instances, he observes, it excited vomiting ; in general, it purged the patient twice or thrice in the day with ease ; but, in some cases, it seemed rather to bind the belly ; it generally increased the quantity of urine, but not to so great a degree as squills, or the like ; it very commonly mended the appetite, and diminished the thirst, heat, and fever. From these observations, he concludes, that it acts in some degree as an evacuant ; but since much more powerful evacnants have by no means equal effects, he is inclined to think, that its principal operation depends on its power as a deobstruent.

On the subject of squills, he observes, that from the common method of using them, he seldom met with success ; but an accidental discovery suggested a method of exhibiting them, from which he derived very considerable

able advantage. This he styles the emetic method ; and with this view the squills were generally exhibited in the following form : *Rx.* Pulv. rad. scill. exsic. gr. iii. sal. nitr. pulv. nuc. mosch. aa gr. x. fyr. simp. q. s. M. f. bol. Cap. mane et repetat quotidie. The visible effects of this mode of exhibition are, that the squills at first purge and increase the urine, from which the hydropic swellings are sometimes a little reduced. But in a few days, nausea and vomiting comes on, which is often severe, and attended with acute pain in the stomach, and remarkable slowness of the pulse. During the vomiting, much fluid is thrown up, and the abdomen falls in proportion. In this way the hydropic symptoms disappear ; and, in a short time, for the most part within the space of 16 days, the disease is completely cured. Of ten hydropic cases treated in this manner, seven were cured, which must be allowed to be a large proportion. In some instances, the evacuation was so sudden as to require bandages to the belly.

Besides these observations on the internal remedies in dropsy, he relates two cases of anasarca, in which issues were used with success ; and he observes, that he never saw them at-

tended with any disadvantage. He considers them as being much preferable to incisions, which soon heal up, and must be renewed.

In cases of amenorrhœa, compression of the crural artery succeeded only in one case of six in which it was tried. The pulvis fabinæ taken to the quantity of a scruple thrice a-day, succeeded in three cases of five. But the root of rubia tinctorum, or madder, appears to Dr Home to be a still more powerful emmenagogue. Of 19 cases here related, 14 were cured by it. It was given to the quantity of half a dram, or even of a dram, twice or oftener in the day. It has scarcely, he observes, any evident effects. It never quickens the pulse, or lies heavy on the stomach; and, in general, restores the discharge before the 12th day.

In eruptions of the herpetic kind, Dr Home found, that the tincture of cantharides considerably alleviated the disease, but seldom produced a complete cure. He found little benefit from the cortex interior ulmæ, as recommended by Dr Lysons; nor did he derive greater advantages from the vitriolic acid.

After some observations on the diagnostic symptoms of worms in the alimentary canal,
among

among which he considers an œdematous swelling of the alæ narium, upper lip, and often of the contiguous parts of the cheeks, as the only certain mark, he relates several experiments, from which it appears, that the *Spigelia Marylandica*, or Indian pink, is an effectual and valuable vermifuge. It was given, in general, to the extent of ten grains twice in the day; and its only obvious operation was that of gently moving the belly and discharging the worms.

From several trials, Dr Home concludes the deobstruent powers of mezereon to be very strong. He found it reduce schirrous swellings which appeared incurable, and in which a course of mercury had failed.

From several trials, he found, that a decoction of verbasum, the white or cow's lungwort, was useful in diminishing or stopping diarrhœas of an old standing, and had often very considerable effect in easing the pains of the intestines. From dry cupping, he experienced remarkable effects in restraining hæmorrhages, particularly from the uterus, and he considers it as a much more powerful remedy than is in general imagined.

In the last section, Dr Home relates several experiments on different lithontriptics. From

experiments made with caustic ley, he was inclined to form an unfavourable opinion of it, as the symptoms of some patients appeared to be aggravated by it ; yet he found, that the urine of patients taking it, enjoyed some power of dissolving calculi. He found, that from the use of mephitic water, the urine was in some degree impregnated with mephitic air, but that it acquired no power of dissolving calculus.

We have thus endeavoured to present our readers with some of the most important conclusions contained in this valuable practical Work ; but for the evidence on which they are rested, we must refer them to a candid consideration of the experiments in the original.

XIV.

Reglements concernant la Propreté des Vaisseaux, & la Conservation des Equipages. Vid. Journal de Medecine, Juillet, 1780. 12mo. Paris.

THE Regulations now before us, which are dated at Versailles the 15th of January 1780, and signed by M. de Sartine, have probably been, in a good measure, the consequence

quence of the very great sickness which is said to have prevailed in the French fleet, during the Summer 1779. On what authority they have been inserted by the compilers of the *Journal de Medecine*, we do not know; nor do they mention from whence they have derived them. They only introduce them by observing, that, from the importance of the subject, they are persuaded the greatest part of their readers will receive peculiar satisfaction from their having inserted them. They consider these regulations as a proof of the attentive care of the Minister, for preserving that class of men, whom the philosophy of our days presents as an object of political calculation. How far regulations better fitted than these, for preserving the health of seamen, may be instituted, we cannot take upon us to say. Still, however, it is not to be doubted, that in some particulars they may suggest useful practices. With this view, then, we shall present them to our readers; and, as they do not extend through many pages, in place of an analysis, we shall give a translation of them at full length from the *Journal de Medecine*.

1. All the partitions betwixt decks, and in the holds of the ships and other vessels of the navy,

navy, shall be washed over two or three times with lime-water, for the destruction of insects and putrid miasmata, which may have been lodged there on former occasions. The inside of the vessel must, after this, be well aired and dried. The ballast of stones shall not be taken on board till it has first been washed with fresh water.

2. The ship's company shall consist, as much as possible, of stout and sound men; and none are to be taken who have been much subjected to scurvy, syphilis, hernia, pulmonary affections, or any other disease where there is not hopes of a speedy recovery, or where there is reason to be apprehensive of a relapse after being on board. On this account, every one of the sailors and soldiers shall be examined by the physicians and surgeons majors, who shall be attentive, at the same time, that no feigned disease shall furnish a pretext for escaping service. Those mariners and soldiers who are taken from an hospital, shall pass eight, or at least four days, in some well aired place, before they be embarked; and all their cloaths must be well washed and perfumed.

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3. The mariners and foldiers fhall not be embarked, without being firft provided with proper cloathing for defending them againft cold and moifture ; and every man of the fhip's company fhall be furnifhed with an hammoc.

4. The crew of every fhip or other vefTel fhall be divided into different fquads, according to the captain's orders. Different officers fhall have each the particular charge of one of thefe fquads. He fhall watch over the prefervation of the health of thofe who compofe it, and fhall give a daily report to the captain of whatever concerns the police of his fquad.

5. Every man of the fhip's company fhall be fhaved at leaft once a-week, and even oftener if it be thought neceffary ; they fhall comb themfelves frequently for deftroying vermin ; and fhall change their fhirts every Sunday and Thurfday.

6. The fea-officers, failors, foldiers, boys, &c. who have dirty legs or feet, fhall be obliged to wafh with warm water in winter, and in fummer to ufe twice a-week the baths eftablifhed on the ftarboard and larboard bows.

7. The officer charged with each fquad fhall be obliged to infpect the cleannefs of the men and their cloaths.

8. In fine weather, the cloaths shall be put in the nets placed outwardly along the side of the ship ; and, in wet weather, they shall be put in the nets placed between decks, at every interstice between the guns against the side.

9. The dirty linen and other cloaths shall be put into buckets to steep, or into the drag, and shall not be put into bags till after being washed and well dried. The hammocs shall be put into the drag every month ; and when the ship comes to port, they shall be washed on shore.

10. The surgeon-major on board shall frequently examine the mouths of the crew, that their gums may not be affected with any disease which it is possible to prevent.

11. The medicine-chests shall be furnished with whatever may be reckoned necessary for every possible case, that the surgeons may be enabled to treat the sick with success. These chests shall particularly contain the most celebrated antiscorbutics.

12. The officers commanding ships and other vessels, shall appoint those of the crew who are least fit for the sea-service, to take care of the sick ; and there shall be allowed suitable rewards to these attendants.

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13. These attendants shall make the beds of the sick both morning and evening, and shall take the greatest care to leave none of the urine or fæces of the sick in the pails or buckets, either by night or day; but must throw it immediately into the sea.

14. The surgeons-majors shall be careful and vigilant respecting the sick; they shall see that every thing necessary be performed by their assistants and mates; and they shall take care that no sick person remains long in bed, when exercise and free air can contribute to dissipate that kind of indolence which constitutes the first taint of a scorbutic affection.

15. The surgeon-major of every ship shall send with the sick who are transported to the hospitals in the rear of the fleet, or to those established on shore, an exact account of the state of each patient, and of the remedies which have been administered to them.

16. There shall be embarked a proper quantity of rice, malt, and conserve of sorrel, for the different soups and panadoes, which in general agree better with the sick at sea than animal food. There shall be embarked, for the time of convalescence only, a certain quantity of fowls; and likewise of carrots, of onions,

ons, and of ground mustard, the use of which is particularly recommended to the mariners.

17. There shall be embarked also, as a part of the stores for the sick, independently of what enters the medicine-chest, vinegar, spirits, sugar, rob of lemons, as well for the composition of the drink of Colbert, as of the antiscorbutic punch. The surgeon-major, after having informed the officer charged with the distribution of them, shall be authorised to demand these articles from the commissary, and shall have the regulation of the quantity which he reckons it necessary to employ, as well as every thing else which has any immediate connection with preserving or restoring the health of the crew.

18. There shall be given to the surgeon-major on board, an account of the stock of these articles, that he may regulate the consumption which may be made in proportion to the quantity, and to the length of the voyage; and he shall keep an account of the consumption in the same register in which he keeps an account of the diseases which prevail on board, and of the remedies which are employed.

19. The surgeons mates shall assist at the distribution of these refreshments made by the
commissary

commiffary of vivres, that they may be fatisfied of its being done agreeably to the orders of the furgeon-major.

20. The officer charged with the diftribution of provifions, and the furgeon-major, fhall preferve from the allowance of the fick, the quantity of bread and wine which may remain, that the bread may be employed in the compofition of cataplafms, and the wine for fomentations and other medicinal ufes, without its being neceffary to make a particular demand for thefe purpofes.

21. The good quality of food and drink being one of the moft efficacious means for preferving the health of the crew, the commanders and officers charged with the diftribution of provifions on board his Majefty's veffels, muft watch with the greateft care, that the vivres, the wine and the water, be preferved in fuch a manner as not to fuffer the leaft poffible prejudice during the longeft voyages.

22. To render the falted provifions fufficiently digeftible, on being taken out of the buckets, in which they ought to be kept for the fpace of a night, in order to frefhen them, they muft be put into a boiler filled with fea-water,

water, where they may be still farther freshened by being boiled for about three hours.

23. The wine which is left after the distribution to the crew, must never be allowed to remain in the buckets, because by that means it will become sour during the night, and will spoil that poured upon it for distribution the day following.

24. After the water-casks have been carefully cleaned and filled, a piece of quick-lime must be put into each. Half a pound must be added for half casks, and a pound for whole casks; this process being found to preserve the water from a great part of the putridity which it contracts when it is not employed.

25. To correct that putridity which the water will contract more or less quickly, notwithstanding these precautions to prevent it, two pints of good vinegar must be added to every hoghead of water, when it is put into buckets for the use of the crew. A sufficient quantity of vinegar must be taken on board to answer this purpose.

26. Water must never be distributed for drink till after it has been three times filtrated through cloths.

27. No

27. No more bullocks, sheep or poultry, shall be taken on board, than are absolutely necessary as provisions for the officers and refreshment for the crew, to diminish as much as possible confusion and nastiness on board. His Majesty makes the commanders of vessels personally answerable for the execution of this article.

28. The most scrupulous attention must be paid not to keep in the hold, or any other part of the vessel, any dung of animals, or other matter quickly susceptible of putrefaction.

29. No sea-water must be left in the common buckets from one day to another, as by its speedy corruption it occasions, particularly in summer, a very disagreeable and infectious smell.

30. All his Majesty's ships must be provided with ventilators, which must be used as frequently as possible.

31. Small port-holes must be provided for renewing the air betwixt decks in bad weather. If small scuttles can be opened in the side at every cannon-port, this must be put in practice; if this cannot be done without hazarding the hull of the vessel, these must

be supplied by small ports made in the large ones.

There shall be erected between each space for working the guns, vents of plate-iron placed against the sides of the vessel, which going from the first battery, shall rise to the height of the *chandeliers de bastingage*.

32. When it becomes necessary that a quantity of water should be thrown into the bottom of the hold to wash it, the master's mate of the hold shall give intimation of this to the lieutenant on duty. The water thrown into the hold shall not be pumped out till after it has remained there for eight hours.

33. The use of the air-fails being one of the most proper means for driving the infected air from the bottom of the vessel, must be frequently employed. But then care must be taken, that the whole crew be ordered upon deck till the foul air of the hold be evacuated from betwixt decks through the ports; and the births of the sick must be carefully guarded against this air by curtains. At the same time, all the gun-ports to leeward must be opened.

34. The same precautions must be taken in working the pumps; and in new vessels, which

which make so little water, that it is apt to become putrid, some tons of water must be thrown frequently into the pump-well, to wash it, and afford an opportunity for working the pumps.

35. Every day, early in the morning, the quarter-deck, poop, passages, &c. shall be washed with sea-water, mopped and sanded.

36. The hammocs being made up, the different births shall be cleaned by those who occupy them ; the decks shall be scrubbed, swept and sanded.

37. The carriages, cannon and other utensils of the artillery, shall also be cleaned. The principal gunner shall appoint one of his mates to attend daily to the careful execution of this duty.

38. When all the decks are properly cleaned, the master's mate, and gunner's mate, shall report this to the master and chief gunner, that they may see that no place be neglected ; and they again shall report to the lieutenant on duty, that he may go himself along with them to make an inspection.

39. Every morning also, the hold, the places betwixt decks, and the false decks, shall be perfumed. The births of the sick shall be perfum-

ed twice a-day, and even oftener, particularly when any of the sick people get purgatives. The fourth officer on duty at the time of perfuming, shall either see himself, or give orders to some inferior officer to see, that this operation be performed with the attention which is requisite, and he shall report it to the captain.

40. After meals, the different parts of the deck shall be swept by those who occupy them ; and there shall be allowed to every birth, a small mop and brush, for keeping each birth clean, and every day one of the men by turns shall take charge of this.

41. The officer of the guard shall order his second to walk a round through the ship, at ten in the morning, at four in the afternoon, and at ten at night : The master, the gunner, and the commander of marines, shall also make three rounds at different hours, and shall make a report to the lieutenant on duty.

42. His Majesty recommends it to all the commanders of his ships and vessels, to bestow the greatest vigilance on the execution of the present regulations ; to encourage exercise, activity and cheerfulness among the crews entrusted to their care ; and in fine, to employ

ploy every measure which can contribute to the health and preservation of their crews.

Given at Versailles, the 15th of January 1780.

(Signed,) DE SARTINE.

XV.

Dissertatio Inauguralis Anatomico-obstetricia de Sectione Synchondroseos Ossium Pubis. Auctore Emanuel Bentely. 4to. Argentorati.

THE division of the symphysis pubis, in cases of difficult labour from distortions of the pelvis, has of late become not only a subject of speculation, but of practice. Our Author, in the work before us, enters minutely into the merits of the question, as to the propriety of substituting this operation for the Cæsarian section.

In the course of a very accurate anatomical description of the bones which compose the pelvis, Dr Bentely renders it evident, that at the junction of the ossa pubis, these two bones are each of them covered with a distinct cartilage, without any intervening elastic substance whatever. Almost every anatomist has

hitherto asserted, that the same kind of yielding ligamentous substance, is detected at the junction of these bones, as is found between the vertebræ of the spine; our author however proves this to be merely a hypothesis, the cartilages of the ossa pubis being always found in contact with one another without the intervention of any other substance.

The different circumstances which ought to render the Cæsarian operation necessary, may be reduced, our author remarks, to the following :

1. When a woman, come to her full period, is found to have such a narrow pelvis, that the hand of the operator cannot be introduced to the uterus; or, if introduced, that the foetus cannot be extracted.

2. When the foetus has been extra-uterine from the commencement of pregnancy; or has been pushed from the cavity of the uterus, in consequence of a rupture in that viscus.

3. When large schirrous tumours occupy the mouth of the uterus, so as to prevent either the passage of the foetus, or the introduction of the operator's hand. Instances of which are to be met with in Hildanus.

4. When

4. When, in cases of uterine herniæ, the uterus cannot be replaced in consequence of adhesions between it and the neighbouring parts.

Of all these causes, however, that may give rise to the Cæsarian operation, the most frequent, our author remarks, is that which depends upon a wrong conformation of the bones of the pelvis; and it is in this case only, he thinks, that any doubt can ever occur as to the propriety of having recourse to the division of the symphysis pubis, in preference to the Cæsarian operation. In all the other cases of difficult labour, the Cæsarian section must still be the only resource; and even in this case of the malady, it is our author's opinion, that the division proposed, of the symphysis pubis, will seldom, if ever, prove an adequate remedy.

Dr Bentely does not merely assert this as a matter of opinion; his reasons for it are proposed with a great deal of candour, and supported by a number of experiments.

In cases of difficult labour from a mal-conformation of the bones of the pelvis, the obstruction which occurs to the passage of the head of the foetus, depends almost always, our author remarks, upon a narrowness or straitness in the short diameter of the pelvis, and

feldom upon any deficiency in its longer diameter. This being the fact, he observes, that very little advantage is to be expected in such cases from a division of the bones of the pubis; for, although by a distraction of these bones, the long diameter of the pelvis may be somewhat extended, yet its short diameter, or, in other words, the distance of the ossa pubis from the os sacrum, cannot be much increased by the former of these being somewhat separated.

Various experiments are related, which were instituted with the sole intention of determining the degree of advantage to be obtained by this operation. The subjects consisted of women, who had died, either in different periods of pregnancy, or soon after delivery. But in all of them, the increase given to the short diameter of the pelvis was exceedingly trifling; in no case being in any degree equal to the want which ought to render such an operation necessary. Even when a very considerable degree of force was applied, and when of course the divided ossa pubis were a good deal separated from one another, yet still the diameter of the pelvis was increased to a very small degree only, where in such cases of difficult

difficult labour its enlargement in general is most needed.

After an accurate account of various experiments of this nature upon the dead body, Dr Bentely favours us with the history of two cases of difficult labour, in which the division of the symphysis pubis was had recourse to upon the living body; and the events of both these tend greatly to corroborate the Doctor's opinion with respect to the inutility of this operation in every case of difficult labour.

The first of these was performed by Professor Sibold, a celebrated anatomist, in the month of February 1778, some time after Dr Sigault of Paris had communicated to the public the success of his operation in a similar instance.

After dividing the bones at their symphysis with the greatest attention, the Professor was surprised to find, that a very great degree of strength was necessary to produce any separation between them; and even all the force that could be applied with any degree of safety, could not effect an opening of much more than a finger's breadth.

The advantage, therefore, that was gained here, proved exceedingly small; a dead child, however,

however, was at last extracted; but much more force was found necessary, than durst have been ventured upon had the child been living.

A violent inflammatory fever succeeded this operation. But by different blood-lettings, and other remedies, it was removed. The patient did not complain of so much pain in the back and loins as might have been expected from the force used in the operation for distending the bones. For several weeks the urine passed by the wound: On the seventh week, however, she was able to walk abroad; but at the end of the first year, the wound still remained open, owing to the tedious exfoliation which had occurred of different portions of the ossa pubis.

The other operation was done in the month of May 1778, by Dr Guerard, professor of anatomy at Dusseldorf. This woman was 37 years of age; this was her first pregnancy, and her pelvis was much distorted. Every effort for delivering her having proved ineffectual, owing entirely to the narrowness of the pelvis, it was at last agreed to have recourse either to the Cæsarian operation, or to the division of the symphysis pubis.

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This last operation being determined on, it was immediately put in practice with every care and attention necessary for ensuring success. But although in this case the bones of the pubis were made to separate fully an inch and a half from one another, yet the advantage thereby obtained, in increasing the diameter of the pelvis, was so very small, that it was with the utmost difficulty the delivery could be completed, even by tearing the child away piece-meal by the crotchet. At last, however, the foetus was all got away; but the woman was so very much reduced and spent by the operation, that she died on the 10th day.

From the result of these two cases, therefore, as well as from the experiments already mentioned, our author is of opinion, that this operation will not be found to succeed; and that whether the difficulty of labour may proceed from a mal-conformation in the higher or lower opening of the pelvis.

The success which attended Dr Sigault's operation proves nothing, our author thinks, against this doctrine; for in that woman, it is now proved, he observes, by Mr Piet's publication on this subject, that although the dia-
meter

meter of the pelvis was narrower than it ought to have been, yet that it was at least three inches at its narrowest point. This our author seems to consider as an opening fully sufficient for preventing in every case the necessity of having recourse to this operation.

Mr Piet, we are informed, was very well able to judge of the fact, from his having delivered this woman on a former occasion ; the child indeed was dead, but of a pretty large size ; and finding the pelvis narrower than it ought to be, he was very accurate in attending to its diameter, which he asserts to have been at least three inches. Dr Bentely, therefore, does not suppose that this case can in any degree invalidate his opinion.

XVI.

Henrich Matthias-Marcard der Arzneywissenschaft Doctors, zu Hannover, Medicinische Versuche. Zweyter Theil. 8vo. Leipfig.

i. e.

Medical Essays by Henry Matthias-Marcard, M. D. of Hanover. Part II.

OF the first volume of this Work, which contains Dr Marcard's theory of jaundice, we have already given an account in a former

former part of this work. In the volume now before us, which contains practical treatises and observations on different subjects, Dr Marcard begins with giving an account of a very singular disease which appeared at Stade in the winter 1771 and 1772, which he names a *spasmodic disorder*, resembling the *kribelkrankheit* of the Germans, literally the *cripple disease*, the *convulsio raphania* of Sauvages, the *raphania* of Linnæus, Vogel and Cullen. According to the account our author gives of it, this is an endemic spasmodical disease peculiar to Germany. The essentials of this disease are, frequent painful spasms, “the *motus spasmodici vagi* of the ancient writers,” attacking commonly at first the muscular parts, and particularly the limbs. It does not disappear by any distinct crisis, but for the most part by a kind of metastasis. When it happens that the termination of the disease is unfavourable, it attacks the noble parts, and, by its effects upon them, destroys the life or the health. It is distinguished both by Sauvages and Vogel from the *ergot* of the French, though neither of them have pointed out the grounds of this distinction. But, according to the accounts our author has received of it, the *ergot* is a pain
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in one limb, followed with a stupor, a change in the colour of the skin, and complete mortification. This he observes is a termination which never takes place in the raphania. Although this disease, which our author here describes as having appeared at Stade, bears the strongest resemblance to the raphania, yet it differed very considerably from the accounts given of that which appeared some years before at Zell, Holstein, and Hesse Darmstadt. That idiotism, that raging hunger, were not to be found to the degree mentioned by other writers on this disease, and the epileptic symptoms appeared only in a very few instances. Still, however, notwithstanding this difference, he is disposed to think, that this disease was plainly of the nature of the kribelkrankheit. At the same time, the disease he describes, he observes, was infectious, which almost all the writers on the subject say is not the case with the raphania ; and he does not imagine that it took its rise from the use of the *secale cornutum*, the cause which they usually assign for that affection.

The second treatise in this volume is on the vapour-bath ; and our author, together with a copperplate, gives an account of the apparatus for the vapour-bath which he has employed.

He

He relates also many different cases, in which he has employed it with advantage.

In the third dissertation, he treats of old wounds and sores, particularly on the legs. Dr Marcard observes, that sores on the legs, particularly of old people, have long been considered as a kind of drain, by which nature discharged a certain preternatural morbid fluid, which, had it continued mixed with the circulating juices, would have corrupted the whole mass, and thereby occasioned some ordinary disease, and, if they fell upon the nobler parts, would entirely destroy the body. Many Physicians, however, have of late maintained, that the corruption which manifestly appears in the fluid discharged from old sores, arises not from the constitution of the body, but from the sore itself. In consequence of this principle, they naturally drew the conclusion, that the healing of the sore entirely removed the complaint. Amongst the writers who maintain this opinion, Goulard is the most confident, who advises, without distinction, the application of his preparation of lead; though it is true, that, at the same time, he recommends that recourse should be had to suitable internal means.

Our author, after extracting a passage from Goulard, adduces a variety of different cases to prove, that the application of preparations of lead, in the healing of old sores, is often attended with the most unhappy and fatal consequences. Amongst many other observations which he throws out, he says, that there is one method which he has met with of healing old sores, which, in certain circumstances, he has found attended with good effect, that is, the applying a blister to it. If the disease arises from the constitution, no bad effects can, he thinks, follow from it; and, if the seat of the complaint be in the sore itself, it may effect a cure by destroying the too great sensibility of the diseased part, and changing the state of circulation. He says, however, that in all the cases which he has had occasion to treat, he made no attempt directly to heal an old sore in the leg, but endeavoured, by purges and other internal means, to meliorate the juices. He advises externally the use of lime-water, where the sore has a very bad appearance. He acknowledges, that in some of the worst cases, a preparation of lead was found of service. With this view, he in general employed a solution of sugar of lead, or a salve prepared with

with white-lead. But in no case did he think it advisable entirely to heal up the fore. He reckoned it sufficient to bring it to a better appearance. And this he thinks may be done without any hazard.

XVII.

First Lines of the Practice of Physic, for the Use of Students in the University of Edinburgh. By William Cullen, M. D. and P. Vol. II. 8vo. Edinburgh.

IN two former parts of these Commentaries, we gave a very full account of the first volume of this Work. To this we were induced by a desire of laying before our readers the fundamental parts of a celebrated system of physic, which has of late had many followers, and not a few opponents, among those who have had an opportunity of hearing it delivered in lectures. Into the force of the arguments employed in support of this doctrine, or which may be adduced against it, we reckon it foreign to our business in this place to enquire. But we are persuaded, that when the single circumstance of the novelty of Dr Cullen's doctrine is considered, none of our readers will be displeased at the attention we have bestowed upon them.

We now proceed to follow our ingenious author through his second volume, which was not published till a considerable time after the first had appeared.

This volume commences with the third book of the work, which comprehends the *exanthemata*, or *eruptive fevers*, being the third order of pyrexiaë in our author's Nosology.

Erysipelas is the first disease which Dr Cullen mentions. He supposes it to depend upon a matter generated within the body, and which is, in consequence of fever, thrown out upon the surface. Although it may be difficult to apply this doctrine to every case of erysipelas, yet the Doctor thinks, that it always corresponds with the erysipelas which occurs on the face, of which, on this account, he proceeds to treat. After a full enumeration of the symptoms, the author concludes, that erysipelas of the face is to be cured very much in the same manner as phlegmonic inflammations, by blood-letting, by cooling purgatives, and the antiphlogistic regimen ; the propriety of this practice has been confirmed by his own experience. It is probable that erysipelas is sometimes attended with, or is a symptom of putrid fever ; and, in such cases, the evacuations proposed

posed above may be improper, and the use of the Peruvian bark may be necessary : But our author cannot be explicit on this subject, as such putrid cases have not fallen under his observation.

The next disease which is the subject of consideration is the *plague* ; and in treating of it, the means of prevention, and the means of cure, are the great objects of the Doctor's enquiry.

Various and useful hints are thrown out, for preventing the communication and spreading of the contagion which gives rise to the disease. The chief of these are, to shorten the time of quarantine, both of persons and goods, and thereby lessen the temptation to break such quarantine : To avoid near communication with infected persons or goods. Persons remaining in infected places, and obliged to have a near communication with the sick, ought to avoid every debilitating cause ; such as a scanty diet, intemperance in drinking, excess in venery, fatigue, any considerable evacuation, exposure to too great cold, and the impressions of fear. They ought farther to guard against infection, by the moderate use of wine or of spirituous liquors ; by mo-

derate exercise ; by the use of the cold bath, if accustomed to it ; by taking bark and camphire.

In the cure of the plague, the Doctor chiefly refers to what he had delivered on the cure of fever in general.

On the subject of the small-pox, the Doctor, after enumerating the symptoms as they occur in the distinct and in the confluent kind, endeavours to ascertain the causes of this difference in the appearance of the disease. He rejects the idea of its depending upon any peculiarity of the virus which communicates the infection and concludes that an inflammatory state of the whole system, and more particularly of the skin, gives occasion to a greater number of pustules, and that the causes of this may produce most of the other circumstances of the confluent small-pox.

In treating of the cure of the small-pox, Dr Cullen enters into a full consideration of the practice of inoculation, and enumerates the several measures which precede and follow this operation, and which are supposed to contribute to its salutary effects.

1. *Choosing a proper patient*, and avoiding the concurrence of other diseases. On this subject, the Doctor has observed, that the presence
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of scrophula, and even of several diseases of the skin, did not render the small-pox more violent; and he is of opinion, that it is the febrile diseases, or aliments ready to induce or aggravate a febrile state, that give the concurrence which is most dangerous with the small-pox. In every case where it is difficult to guard against infection, the Doctor is of opinion, that it is safer to give the small-pox by inoculation, than to leave the person to take them by the common infection.

2. *Choosing a proper time of life for inoculation;* this Dr Cullen, from various considerations, fixes to be betwixt the time when the first dentition is over and the time of puberty.

3. *A favourable season;* which the Doctor points out to be that in which we avoid the extremes of heat and cold.

4. *The preparation of the patient, by enjoining abstinence from animal food.* The author is of opinion, that a longer abstinence is necessary than is generally prescribed.

5. *The preparation of the patient, by mercurial and antimonial courses:* Dr Cullen doubts the utility of these courses; at least he supposes them to operate only as purgatives.

6. *Avoiding at the time of inoculation, cold, fear, intemperance, or other causes that might aggravate*

the future disease. Dr Cullen thinks that inoculation derives a great, and perhaps its principal advantage, by avoiding the concurrences above mentioned.

7. *The opportunity which inoculation gives of a proper choice of matter.* Our author, however, thinks it very doubtful if any choice is necessary, or can give any benefit in determining the state of the disease.

8. *The introducing by inoculation but a small portion of the contagious matter.* But in the case of the small-pox, a considerable difference in the quantity of the contagion introduced, has not shewn any effects in modifying the disease.

9. *After the inoculation the employing frequent purging.* Purging appears to diminish the activity of the sanguiferous system, and the determination to the skin; and is, therefore, a practice in inoculation which may give considerable advantage.

10. *Both before and after inoculation, the avoiding external heat, and exposing the person to a free and cool air.*

A large and repeated experience has confirmed the safety and efficacy of this remedy; and as it may and can be more certainly employed with the practice of inoculation, than
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it can be in cases of common infection, it must give a singular advantage to the former.

11. *Moderating the eruptive fever, by means of purgatives, by cooling and antiseptic acids, by frequent exposure to cool, and even to cold air; and by cold drink given freely.*

12. *After the eruption, the continuing the application of cold air, and the use of purgatives during the course of the disease till the pustules are fully ripened.*

Dr Cullen is of opinion, that the application of cold air after the eruption, cannot give any peculiar advantages to inoculation. He also thinks, that the employment of purgatives has often led to an abuse. For when the state of the eruption is determined, the number of pustules small, and the fever has entirely ceased, he supposes the safety of the disease to be ascertained, farther remedies to be superfluous; and therefore, that, in such cases, the use of purgatives is unnecessary, and may often be hurtful.

Our author next takes notice of the *chicken-pox*, which he seems to introduce, to explain the error into which some practitioners have fallen, when they suppose that the same patient has been twice attacked with the *small-pox*.

When treating of the *measles*, Dr Cullen observes, that from the symptoms plainly indicating an inflammatory state of the whole system, we are to trust the cure to the evacuations made by blood-letting, and gentle purging, and to the use of blisters. He highly recommends the exhibition of opium in large doses, when the fever is moderate, and when cough and watchfulness form the chief complaints of the patient.

He rejects the analogy betwixt this disease and the small-pox that has been drawn by some Physicians. He imagines, that the catarrhal symptoms which always precede this disease, and the peripneumonic affections which are often the consequence of it, justify him in prohibiting the free exposure to cold air, as commonly practised in the small-pox. In proof of this assertion, our author observes, that in several cases, where, in consequence of exposure to cold, the eruption of the measles disappeared, it was again brought out with much relief to the patient by the application of a due degree of heat.

Dr Cullen seems to oppose the popular opinion of the necessity of purging, in order to carry off the *dregs* of the measles. It is not, he

he thinks, drawing off the morbid matter which we need to study, so much as the obviating the inflammatory state of the system which had been induced by the disease. With this last view, purging may still be a proper remedy ; but bleeding, in proportion to the symptoms indicating an inflammatory disposition, is still more so.

Dr Cullen next proceeds to treat of the scarlet fever. From a variety of considerations, he is of opinion, that this disease is specifically different from the cynanche maligna ; and he has found from all his experience, that they require a different treatment. This difference chiefly consists in the employment of bleeding, although sparingly ; and in having recourse to the antiphlogistic regimen. In the scarlet fever, when the febrile symptoms run high, when the fauces are swelled and pained, and when at the same time there is no ambiguity in the nature of the affection of the throat, these are the most effectual remedies.

When treating of the miliary fever, Dr Cullen remarks, that it is acknowledged on all hands, that the red miliary eruption is a symptomatic disease. He also concludes from a variety

variety of arguments, contrary to the opinion of several Physicians, that the white miliary eruption is also symptomatic, and does not depend upon a specific contagion : That it occurs in the course of other diseases in which a hot regimen is employed ; and more especially so, when debilitating causes have preceded such diseases, as the loss of red blood by accident, profluvium menfium, or where a long continued fluor albus has prevailed.

In the fourth chapter, Dr Cullen proceeds to consider hæmorrhagies. He introduces the subject with some general observations on hæmorrhagy. He restores the distinction which nosologists have overlooked betwixt *active* and *passive* hæmorrhagies ; and he observes, that it is the active hæmorrhagies, or those attended with pyrexia, of which he is to treat in this place.

After enumerating the phænomena of hæmorrhagy, Dr Cullen proceeds to ascertain the proximate cause. The different circumstances constituting the proximate cause, seem to him to be the following :

Some inequality, he thinks, takes place in the distribution of the blood occasioning a congestion in particular parts of the sanguiferous system ;

system; and consequently a preternatural distension of the vessels of the part. This distension proves a stimulus to them, and excites their action to a greater degree than usual; by which means the blood pushed with unusual force into the extremities of the vessels, opens them by anastomosis or rupture.

Farther, in consequence of congestion, a sense of resistance arises and excites the action of the *vis medicatrix naturæ*; and the exertions of this are usually made by the formation of a cold stage of fever, inducing a more vigorous action of the vessels; and the concurrence of this exertion more effectually opens the extremities, and occasions the discharge of the blood.

In order to account for the return of hæmorrhagy, it is observed, that though it may depend upon the state of the vessels of a particular part, yet it is necessary to that state's producing its full effect, that the whole system be in its natural plethoric condition; and if this should be in any degree beyond what is natural, it will more certainly determine the effects of topical congestion to take place. But hæmorrhagy has always a tendency to increase the plethoric state of the system, and to occasion its own return.

As the renewal and farther accumulation of blood require a determined time, so, on the several repetitions of hæmorrhagy, that time will be nearly the same ; and therefore the return of hæmorrhagy will be commonly at stated periods, as has been observed frequently to happen.

Dr Cullen explains the occurrence of hæmorrhagy from particular vessels, and at certain periods of life, by taking a view of the gradual increase, and successive evolution of the different parts of the body. He supposes that the vessels in those parts which are first completely formed, will first be capable of resisting the action of the heart ; so the determination of the blood will most readily produce in that part a rupture of the vessels, or a hæmorrhagy.

When the several parts of the system of the aorta have attained their full growth, and are duly balanced with one another ; if then any considerable degree of plethora remain or arise, the nicety of the balance will be between the systems of the aorta and pulmonary artery ; and though the lesser capacity of the vessels of the lungs is commonly compensated by the greater velocity of blood in them, yet
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if this velocity be not always adjusted to the necessary compensation, it is probable that a plethoric state of the whole body will always be especially felt in the lungs; and therefore, that a hæmorrhagy, as the effect of a general plethora, might be frequently occasioned in the lungs, even although there were no fault in their conformation.

There is another circumstance in the animal œconomy, of which Dr Cullen avails himself. About the prime of life, or the age of 35, an equal balance takes place between the arterial and venous systems, and between the different parts of each; but after this period, the arteries, in consequence of the gradual condensation of their coats, which had been going on from the beginning of life, and which still continues to increase, by the stronger resistance which they give to the passage of the blood through them, become an overmatch for the veins; hence an accumulation of blood in the veins, or venous plethora, arises. This part of our author's doctrine is founded on the experiments of Sir Clifton Wintrigham. It is upon this foundation that Dr Cullen explains the hæmorrhagies that occur in the later periods of life, particularly the hæ-

hæmorrhoidal flux ; the bleeding at the nose which happens to people advanced in life ; the pouring out of blood into the cavity of the cranium, the effect of which is to produce apoplexy ; and which is therefore properly named by Dr Hoffman, *hæmorrhagia cerebri*.

After enumerating the occasional causes, Dr Cullen delivers the cure of hæmorrhagy. Here he takes occasion to combat the doctrine of the Stahlian school, which maintains, that hæmorrhagy is generally to be encouraged, and sometimes solicited ; and is not to be suppressed, unless when it goes to great excess, or happens in parts in which it may be dangerous.

On the contrary, our author alleges, that hæmorrhagy, either on its first attack, or after recurrence, is never necessary to the health of the body, unless upon the supposition that we cannot prevent or remove the plethoric state which seems to require the evacuation. But as he judges this possible in most cases, so he does not think that hæmorrhagy is in all cases necessary ; in general, he thinks that hæmorrhagy is to be avoided.

1st, Because it does not always happen in places where it is safe.

2dly,

2dly, Because often, while it may relieve a plethoric state, it may, at the same time, induce a very dangerous disease.

3dly, Because it may often go to excess, and either endanger life, or induce a dangerous infirmity. And,

Lastly, Because it has a tendency to increase the plethoric state it was meant to relieve, to occasion its own recurrence, and thereby to induce a habit, which, if left to the precarious and unequal operation of nature, may, from the frequent errors of this, be attended with much danger.

The means which Dr Cullen proposes for preventing the recurrence of hæmorrhagy, is agreeable to the doctrine laid down, the obviating the plethoric state of the system by abstinence, exercise, and temporary evacuations; always, however, avoiding blood-letting, as inducing a bad habit, and tending to increase the plethoric state.

The second measure recommended to prevent hæmorrhagy, is the avoiding occasional causes.

After enumerating the several means to be employed when hæmorrhagy actually takes place, Dr Cullen proceeds to treat of particular
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lar hæmorrhagies ; but our limits will not permit us to follow the ingenious author in his observations on these ; and we esteem it the less necessary to do so, because this part of the subject is connected with the general doctrines, of which we have endeavoured to give an account.

The fifth book, which concludes this volume, treats of the *profluvia* or fluxes of our author. Of these Dr Cullen only considers two genera, the Catarrh and Dyfentery, as being more especially marked by the presence of febrile symptoms. Dr Cullen attributes catarrh to the application of cold to the surface of the body, when it operates by stopping perspiration. From the similarity between the fluid exhaled from the skin and the lungs, he thinks, that upon any stoppage of the former, the fluid will be determined to pass off by the latter, and from the increased quantity of consequence poured out into the bronchiæ, the symptom of cough arises.

Dr Cullen marks another species of catarrh arising from contagion, frequent examples of which have been observed since the 14th century. This is the most general epidemic that has been known, for it seldom appears in one part of Europe, without successively pervading the

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the whole of it, and it has even been carried to America, where it has raged in a similar manner.

This, however, makes no real distinction in the disease; the fever in catarrh, from contagion, is generally more acute, but the treatment in both cases is the same, and must be regulated according to the violence of the symptoms.

Dr Cullen gives a very full enumeration of the symptoms of dysentery. He thinks, the remote cause of this disease is a specific contagion, and that the proximate cause of it consists in a preternatural constriction of the colon. This points out the most effectual method of treatment, viz. *purging* assiduously employed. The means for this may be various, but our author thinks, that the gentle laxatives are usually sufficient, and he puts great dependence on the use of tartar emetic in small doses.

He concludes the present work, by making some useful observations on other means of cure, which may be requisite for particular symptoms occurring in the course of the disease.

XVIII.

*Disputatio Inauguralis Medica, sistens Tentamina
quædam cum Aere Fixo in ægrotis instituta.
Auctore Joanne Jaffoy, Hanoviense. 4to.
Goettingæ.*

OUR Author seems to be well acquainted with the different proposals that have of late years been made in Britain, respecting the employment of fixed air in the cure of diseases.

After narrating the opinions of the several gentlemen who have laboured this subject, he gives the history of seven cases which he treated with this medicine. From the result of his practice, he draws the following conclusions: That fixed air was of no service in phthisis, calculi of the kidneys, or in scrophula, and of very little use in the cure of worms: That the external application of it in *tinea capitis* appeared to be of use. And he thinks it worth while, to enquire whether it excels other medicines employed in this complaint. In some cases, he found that fixed air promoted the flow of urine; in others, it induced sweat, and in one instance excited diarrhœa. He also found, that the urine so promoted precipitated quick-lime from water.

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He concludes with giving it as his opinion, that the powers of fixed air as a medicine, are not so great as many celebrated men have thought them.

XIX.

Thoughts on Amputation, being a Supplement to the Letters on compound Fractures, and a Comment on Dr Bilguer's Book on this Operation: To which is added a short Essay on the Use of Opium in Mortifications.—By Thomas Kirkland, M. D. Member of the Royal Medical Society of Edinburgh. 8vo. London.

DR KIRKLAND's intention in this publication, is to vindicate Dr Bilguer's doctrine with regard to amputation, which he thinks has been misunderstood. At the same time, he wishes to rectify some mistakes respecting the opinion of that author, which he himself fell into in the introduction to his letters on fractures.

The doctrine contended for by Dr Bilguer is, that the cases in which amputation is necessary, are much less frequent than has been hitherto supposed. To determine this point, Dr Kirkland considers, at considerable length, the different morbid conditions which have been thought to require amputation. From

much ingenious reasoning, in which he displays a thorough knowledge of the writings of the most eminent surgeons, both ancient and modern, he draws the following conclusions.

1st, That in mortifications which spread to the bone, amputation, when necessary, should not take place till we can apply the saw betwixt the living and the dead parts; and that this mode of amputating should, in this instance, be preferred.

2dly, In compound fractures of the long bones of the extremities, we should act on the side of probability. If there is a probability of the limb being saved, we should attempt to save it: but if there is no hope of a cure without amputation, it should take place without loss of time, giving preference, as often as opportunity offers, to the method of removing the limb at the injured part; and in all this we should be directed by experience, without suffering ourselves to be guided by conjectural reasoning, or to be alarmed with the frightful appearance of a desperate case.

3dly, If in compound fractures of the joints, the bones be not much shattered, or the ligaments and vessels so much torn that there can

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be no possibility of a future circulation ; and if the head or heads of bones can be conveniently taken away ; or if there be a large opening, so that no matter can lodge, or air be confined, a cure will often, or for the most part, happen. Whereas, if great suppuration on the membranes and tendons, with foul bones and a colliquative fever follow, amputation of the limb will generally be necessary to preserve life.

4thly, If care has not been taken to preserve the patient's strength, and the strength of the limb in compound fractures, from the beginning, we may be obliged to have recourse to amputation, as a doubtful remedy is better than none.

5thly, Daily experience, and the concurring testimony of eminent men, evince, that violent contusions in the soft parts, with shattered bones, unaccompanied with a wound, may generally be cured without amputation.

6thly, It is not necessary to amputate on account of a wound, or a simple division of the main trunk of an artery, carrying blood through a limb, except it be made above where the vessel sends off collateral branches ; and when this happens in the axilla, it should

seemingly take place to prevent a mortification. The same may be said in recent aneurisms, arising from injury done to the artery. But in old aneurisms, or in wounds of the principal trunk of the arteries, where the collateral branches are at the same time so obstructed from the injury, that a circulation cannot be carried on, timely amputation may prevent mortification, and preserve the life of the patient.

7thly, In a caries of the cylindrical bones, the limb may be preserved although the greatest part of the bone be taken away. Even where the heads of the bones in a joint are foul, but unattended with pain or fever, that may endanger the life of the patient, we may wait with patience in hopes of an anchylosis taking place.

On the contrary, when the exfoliation or removal of the long bones cannot be procured; after a colliquative fever, remedied by dilatations, proper dressings, and proper internal medicines; or where the heads of all the bones in a joint are become foul, the ligaments, &c. thickened and spoiled, and great pain, fever and their attendants, invade the patient, amputation must take place, or he will probably die.

8thly,

8thly, In local fchirri, extirpation will be fuccefsful ; but when glands are fchirrous in feveral parts of the body at the fame time, or when the whole body is contaminated by the abforption of cancerous virus from a local fchirrus or cancer, death only can be expected. Befides thefe, there are other difeafes, fuch as different kinds of anomalous tumours, &c. which may fo perfectly deftroy the limb on which they are feated, that nothing but the removal of it can do fervice. But we again infift on what we firft principally contended for, that in private country practice, where the limb is properly treated, gangrenes, or a great difcharge of matter in bad compound fractures, are feldom fatal; that amputation is very rarely neceffary in thefe accidents. And we muft think thofe muft have been very unfortunate, whofe experience led them to be of a contrary opinion.

On the fubject of opium as a medicine in mortification, Dr Kirkland recommends it only in cafes where the difeafe proceeds from previous inflammation and confequent obftruction ; in fuch inftances, even when given in fmall but repeated dofes, he has found it highly ferviceable.

XX.

Pharmacopœia Rossica. 4to. Petropoli.

THERE is perhaps no branch of medical science, in both the theory and practice, of which greater reformatations have been made than in pharmacy. This assertion every one will readily allow, who considers with any attention the editions which have lately been published of the *Pharmacopœia Danica*, *Suecica*, *Edinburgena*, and of the *Dispensatorium Pharmaceuticum Brunsvicense*. Of the alterations and improvements which have been made in these works, by colleges of Physicians, established and supported by royal authority, we have already given some account in former numbers of this work.

The publication now before us is the production of a college which had no former *Pharmacopœia* to correct. Among the many improvements which have of late been made in the Russian empire in every department of science, medicine has not been neglected. The present Empress, to whom her country is indebted for many useful seminaries of education, superintended by learned men invited from different countries in Europe, has also established a College of Physicians at Peterburgh.

burgh. The present Pharmacopœia, published for the use of the Russian empire, is the first production of their conjoined labours.

The authors of this work seem to have availed themselves of a careful perusal of all the Pharmacopœias lately published; and from the manner in which their work is executed, other nations may in their turn be benefited by the present publication. The nature of this work does not admit of a proper analysis; and those who wish to derive instruction from it, must have recourse to the original. We shall however briefly endeavour to point out a few of those particulars in which it chiefly differs from the Edinburgh Pharmacopœia.

This Work is divided into two parts. The first of these is entitled *Materia Medica*; the second, *Præparata & Composita*. In both parts, the different articles are arranged in alphabetical order. In enumerating the different articles of the *Materia Medica*, they have followed a plan more nearly resembling that of the *Pharmacopœia Suecica* than that of the *Pharmacopœia Edinburgensis*. This plan will be better understood from a few examples than from any explanation. And for this purpose

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we shall here present our readers with the ten first articles in the order of the list.

ABIETIS turiones, resina granulata.

Pinus abies LINNÆI. Yeal Rossorum. Arbor per Rossiam septentrionalem vulgatissima.

ABROTANI herba.

Artemisia Abrotanum. Bogie dereva. Frutex per Rossiam australem spontaneus, et Petropoli perennans.

ABSINTHII PONTICI vel ROMANI herba.

Artemisia Pontica. Bielaya Neforoshtsh. Suffrutex per Rossiam australem spontaneus.

ABSINTHII VULGARIS herba summitates.

Artemisia absinthium. Polin. Planta subperennis, in Rossia et Siberia spontanea.

ACACIÆ flores ; fructus.

Prunus spinosa. Tiern. Arbor in Rossia australi spontanea.

ACETOSÆ herba recens ; radix.

Rumex acetosa Shtshavel, planta perennis in omni Rossia, et Siberia spontanea.

ACETOSELLÆ herba recens.

Oxalis acetosella. Kislitza vel Orobinetz. Planta perennis in Rossia septentrionali, et Siberia spontanea.

ACETUM

ACETUM VINI. Reinskovoi ookfoos.
Ab exteris vel a Rossia australi.

ACETUM VULGARE, Prostoi vel Pivnoi
ookfoos. E cerevisia, vel e cremati residuo,
in Rossia paratur.

ACONITI, herba.

Aconitum Napellus. Boretz prostrelnaia tra-
va, Pregal Liutik, planta perennis, in Rossia
temperata, et Siberia australi spontanea.

From this short specimen, our readers will readily be able to understand the plan followed in the Pharmacopœia Rossica, with respect to the list of the Materia Medica. In the original, the Russian name of each article is printed in the Russian character. But, for want of the proper types, we have here been obliged to employ the Roman character. With respect to the articles introduced into this list, the authors observe in their preface, “ In medicamentorum simplicium delectu, severa nimis censura uti non placuit.” Accordingly, several articles which do not now in general support the character which they formerly had, and which have been rejected from other Pharmacopœias, have nevertheless obtained a place in this list. It must also be observed, that they have adopted several articles which have not yet obtained a place in almost any other Pharma-

Pharmacopœia. Among other articles not yet adopted by the Edinburgh College, which they have inserted in their list, we may mention the following, *Folia recentia alni*, *Nuclei amygdali Nanæ*, *fructus Cacao*, *radix Caricis*, *Coccus Polonicus*, *cortex Coneffi*, *radix Crambes*, *radix Lobeliæ*, *radix Mungos*, *fabæ Pechurim*, *lignum radicis Quassia*, *herba Rhododendri*, *femen Sabadillæ*, *radix Salab*, *herba Salicariæ*, *cortex Salicis fragilis*, et *Salicis pentandræ*, *herba cum radice Spigeliæ anthelmia*, *radix Spigeliæ Marilandicæ*, *Spongia*, &c.

The articles in this list are upwards of four hundred in number. To the list a note is subjoined, in which it is observed, that there are several other simples lately introduced into practice, the powers of which are well attested. But as the members of the Imperial College of Physicians at St Petersburg have not had an opportunity of ascertaining the use of these articles by their own experience, and as they think that farther trials are still wanting for establishing their character, they recommend them to the industry and attention of the Russian practitioners. Of these, the following may be given as examples. *Oenanthæ crocata*,

crocata, folia Laurocerasi, flores Cardamines pratensis, Digitalis purpurea, Sedum rupestre and Phytolacca decandra, from the vegetable kingdom; the Meloe Maialis and Proscara-bæus, from the animal kingdom.

In the second part of this work, which consists of the *Præparata & Composita*, the whole articles are also arranged in alphabetical order. With regard to particular prescriptions, we cannot pretend to offer any remarks; we may only observe, that the directions given for the different preparations, appear to us to be extremely judicious; and although there may, perhaps, be some exceptions, yet the formulæ are, upon the whole, both elegant and efficacious.

XXI.

Medical Tracts, by the late John Wall, M. D. of Worcester; collected and republished by Martin Wall, M. D. 8vo. Oxford.

ALTHOUGH the collection now before us has been already presented to the public, either through the medium of the Philosophical Transactions, or in separate pamphlets; yet as none of the papers contained in it, have ever had an opportunity of appearing
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in the Medical Commentaries, and as the subjects treated of are all highly interesting to practitioners, we shall here therefore present our readers with a short analysis of their contents.

Article I. treats of the extraordinary effects of musk in convulsive disorders, &c.

A variety of cases are here related, in which the antispasmodic effects of musk were very remarkable; and the instances given are sufficient, our author thinks, to prove, that musk is a medicine of uncommon efficacy in convulsive disorders. He affirms, that when given in its due dose, it has scarcely ever failed to answer his expectations. He has sometimes indeed been obliged to repeat the dose three or four times; but it has always answered at last, in every case where he had reason to expect it should. This medicine, from its scarcity, being more liable to sophistication than almost any other, is the reason Dr Wall supposes of its failing so frequently with practitioners, who are not attentive to the quality of the musk which they prescribe.

Under the quantity of six grains he never found much benefit from it; and it succeeds best when given to ten and upwards. In the larger quantities, it never fails to produce a
mild

mild diaphoresis, without at all heating or giving any uneasiness to the patient. On the contrary, it raises his spirits, and eases his pains; and after the sweat breaks out, he commonly falls into a refreshing sleep.

Of the several cases related by Dr Wall on the effects of musk, we shall here select two, The Doctor was called to a girl seven years old, who had been ill of a fever for about four weeks. For the last ten or twelve days, she had been senseless and speechless; had been liable to strong convulsions, and could scarce swallow any thing. Previous to the Doctor's visit, she had had a general tetanus; and at this time every muscle was by turns convulsed. Her head, in particular, was so forcibly drawn backward, as at different times to raise her body from off the bed.

As she swallowed with much difficulty, twelve grains of musk, ground with oil and sugar, and mixed with some thin broth, were thrown up by way of glyster.

In an hour's time after the first glyster, the convulsions manifestly abated, and the second entirely removed them. The child soon recovered its understanding and speech, and at last got quite well.

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About the same time, the Doctor was called to a girl ten years of age, who had been seized with convulsions three days before. Upon the attack of the fit, she usually complained of a violent pain in her belly and loins, which she said seemed to draw her bowels on a heap: After this, she soon lost her senses, and was variously convulsed, not much unlike one in an epileptic fit. From the first seizure, she seldom had an hour's interval between the fits. Twelve grains of musk were ordered to be given in a glyster, which was thrown up in the decline of the paroxysm. Upon this she instantly recovered, and has never been so affected since, proper care being taken to remove the stimulus which occasioned these spasms.

Article II. contains observations on the use of the Peruvian bark in small-pox.

Various cases are here related of the good effects obtained from Peruvian bark, in small-pox attended with petechiæ or gangrenous symptoms. Dr Wall, in such instances, prefers the extract to every other form of the medicine, as being the least nauseous of any; and he recommends as an useful addition, considerable quantities of alum; the styptic and antiseptic virtues of which, he observes, point
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it out as a valuable remedy wherever the solids have been relaxed, and a putrescency has occurred in the blood and juices.

Article III. contains a dissertation on the cure of the putrid fore throat.

This fatal disease first made its appearance, we are told, in the county of Worcester, about the beginning of the year 1748. It then went generally under the name of the scarlet fever, the complaint in the throat not being much attended to, or at least looked upon only as an accidental symptom ; but it was soon discovered, that the principal seat of the disease was in the parts about the fauces, and that the scarlet efflorescence on the skin was rather an accidental symptom than essential to the disease.

At first, blood-letting, nitrous, and other cooling medicines, were prescribed ; but all the cases so treated, uniformly terminating fatally, the use of bark and other antiseptics were at last had recourse to. Dr Wall, in this complaint, depends very much on the application of the antiseptic steams of vinegar, myrrh, and honey, to the parts affected. Applied in the form of steam, they are much more powerful, he observes, than when used

as gargles ; and by the sole use of these steams, he has known the putrefaction stopped, when the disorder had been but slight.

Articles IV. and V. contain observations on the efficacy of oil in worm-cases.

Different cases are here related, which appeared to originate from worms, and which were cured by the internal exhibition of considerable quantities of oil. The following is the form of using it as recommended by Dr Wall. *Rx.* Olei olivarum, lb. ff. Spt. vol. aromat. dr. ii. M. cap. cochl. iii. mane & h. f.

Article VI. contains experiments and observations on the Malvern waters, a spring in the neighbourhood of Worcester, which has been long famous for the cure of disorders of the eyes, scrophulous affections, old ulcers, leprosy, and other diseases of the skin.

Various histories are here given of the surprising influence of these waters in the cure of these disorders, by the late Dr Wall ; and a very ingenious analysis of the contents of Malvern water is subjoined by Dr Martin Wall.

From Dr Wall's analysis of this water, it appears, that it does not contain any uncombined vitriolic acid, nor any volatile alkali,
nor

nor any metallic salt; that it is slightly impregnated with fixed air; contains some common air, some felenites, and some unneutralized calcareous earth.

XXII.

A radical and expeditious Cure for a recent Catarrhus Cough; preceded by some Observations on Respiration; with occasional and practical Remarks on some other Diseases of the Lungs. To which is added, a Chapter on the Vis Vitæ, so far as it is concerned in Preserving and Reinstating the Health of an Animal. By John Mudge, F. R. S. Surgeon at Plymouth. 3d Edit. 8vo. London.

THE consideration of the catarrhus cough, which is the principal object of this publication, is the subject of the third chapter. In the first and second chapters, we are favoured with some observations on respiration, together with remarks on some other diseases to which the lungs are liable; but as we wish to convey as clear an idea as possible of our author's practice in the catarrhus cough, we shall immediately proceed to that part of the subject.

The catarrhus cough, or common cold, our author thinks, might in all its symptoms be easily accounted for, merely from an obstructed perspiration over the surface of the body, but more especially from an obstruction of that perspirable matter, which in a state of health is continually thrown off by the lungs. He is of opinion, however, that independently of an obstructed perspiration, which in this disease he supposes always to occur, a thickened, dry, inflamed state of the membrane lining the lungs always takes place at the same time; and this he thinks is rendered very evident, by the actual pain and soreness which the cough occasions through the whole wind-pipe and breast on the first appearance of the disorder.

It was from a conviction that the catarrhus cough arose from some degree of real inflammation in the pituitary membrane of the lungs, that the idea of curing the disorder by warm steams was first suggested to our author; for, if the disease of the membrane is only the effects of a cause which is topical, sudden and temporary, it becomes reasonable to suppose, that a well adapted local remedy would be productive of the same good consequences in this as in any other species of inflammation.

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In this view, he observes, the two great indications would be, to prevent as much as possible the irritation arising from the convulsive shocks of the cough on the inflamed parts, and to remove the inflammation itself by such emollient applications as can conveniently be administered to them.

Those intentions, Mr Mudge observes, are thoroughly answered by opium, and by inhaling warm steams into the lungs ; for by the first, the internal surface of the aspera arteria and bronchiæ, are, during the effect of the medicine, rendered in a great measure insensible to the mischievous irritation to which they would otherwise be subject ; and the application of the warm vapour, under the protection of the opiate, by acting like a fodus, and in opposition to the very cause by which the disorder was produced, resolves the inflammation, by unloading the turgid capillaries of the pituitary membrane.

Whether this reasoning be admitted or not, the fact, our author observes, is past dispute, that the conjoined powers of those remedies are a sure, and, in general, an immediate cure. It is in that species of cough only, however, that occurs from what we call taking cold,

and in the commencement of the disorder only, that their effects prove so powerful. In more advanced stages of the disorder indeed, a proper use of the inhaler generally does produce some good effects; but in order to obtain all the advantages to be derived from it, it ought to be had recourse to, either on the evening of the day on which the complaint has first appeared, or at farthest on that of the succeeding one.

A drawing of the inhaling vessel, as invented by our author, is here given; but as the nature of our Work does not admit of plates, we must rest satisfied with giving them an accurate description of it.

The body of the instrument holds about a pint; and the handle, which is fixed to the side of it, is hollow. There is in the lower part of the vessel, where it is soldered to the handle, a hole, by means of which, and three others on the upper part of the handle, the water, when poured into the inhaler, will rise to the same level in both. To the middle of the cover, which is made to fit the mouth of the inhaler exactly, a flexible tube, about five or six inches long, is fixed with a mouth-piece of wood or ivory. Underneath the cover there

there is a valve fixed, which opens and shuts the communication between the upper and internal part of the inhaler and the external air, for a purpose to be afterwards explained.

When the mouth is applied to the end of the tube in the act of inspiration, the air rushes into the handle, and up through the body of warm water; and the lungs become consequently filled with hot vapour. In expiration, the mouth being still fixed to the tube, the breath, together with the steam on the surface of the water in the inhaler, is forced up through the valve in the cover. In this manner, therefore, the whole act of respiration is performed through the inhaler, without the necessity in the act of expiration of either breathing through the nose, or removing the pipe from the mouth.—So far our author's description of the instrument. We now come to the application of his practice in the disease under consideration.

In the evening, a little before bed-time, the patient, if of adult age, is to take three drams of elixir paregoricum, which contains about three quarters of a grain of opium, in a glass of water. If the subject be younger, the dose must be proportionally less. About three

quarters of an hour after, the patient should go to bed, and being covered warm, the inhaler three parts filled with water nearly boiling, and being wrapped up in a napkin, but so that the valve in the cover is not obstructed by it, is to be placed at the arm-pit ; and the bed-cloaths being drawn up and over it close to the throat, the tube is to be applied to the mouth, and the patient should inspire and expire through it about twenty minutes or half an hour.

The great uses of this particular construction are the following : *1st*, As there is no necessity at the end of every inspiration to remove the tube from the mouth, in order to expire from the lungs the vapour which had been received into them, this machine, therefore, may be used with as much ease by children as older people. And, *2^{dly}*, As a feverish habit frequently accompanies the disorder, the valve in that also is of the utmost importance ; for a sweat, or at least a free perspiration, not only relieves the patient from the restless anxiety of a hot, dry, and sometimes parched skin ; but is also of all evacuations the most eligible for removing the fever ; and it usually happens, our author observes, after the in-
haler

haler so constructed hath been used a few minutes, that the warm vapour under the cloaths, by settling upon the trunk, produces a sweat, which commonly soon becomes general.

In a catarrhus fever, or any feverish habit attending this cough, the patient is directed to take a draught of warm thin whey a few minutes before the inhaler is used ; and after the process is over, the sweat which it has produced may be continued by occasional small draughts of weak warm whey or barley water.

After this respiratory process is over, the patient usually passes the night without the least interruption from the cough ; and feels no farther molestation from it, than once or twice in the morning to throw off the trifling leakage, which, unperceived, our author observes, had dropped into the bronchiæ and vesicles during the night.

Tender valetudinary people being in general very well acquainted with the first notices of this disorder, the remedy, as was already observed, ought to be used the same evening, which will, in an ordinary seizure, we are told, be attended with an immediate cure ; but if the foreness of the respiratory organs,

or

or the petulance of the cough, shew the cold which has been contracted to have been very severe, the inhaler, without the opiate, should be again repeated for the same time the next morning.

But, when the use of the inhaler has been delayed till the second night, it will always be right, our author remarks, to repeat it again next morning without the opiate, but with it when the seizure has been violent.

And again, when the cough has been of some days standing, it will always be necessary, we are told, to employ both parts of the process at night, and the succeeding morning likewise, as the first inflammatory mischief is at this time most probably aggravated by an additional one of a chronic tendency.

When, from neglect or other circumstances, the cough becomes too violent to be removed by this remedy, gum ammoniac, with gentle opiates, are much recommended by our author, both from the authority of Sir John Pringle, and from the result of his own experience.

But if, notwithstanding these and other means, the cough continuing dry or unattended with a proper expectoration, should persevere

severe in harassing the patient ; if, at last, it should produce, together with a forenefs, shooting pains through the breast and between the shoulders, attended also with shortness of breath ; and if, added to this, flushing of the cheeks after meals, scalding on the hands and feet, and other symptoms of a hectic, should accompany the disorder ; in this dangerous situation, our author asserts, from long experience, that, accompanied with change of air and occasional bleedings, the patient will find his greatest security in a drain from a large scapulary issue, assisted by a diet of ass's milk and vegetables.

XXIII.

Experiments upon Vegetables, discovering their great Power of purifying the common Air in the Sunshine, and of injuring it in the Shade and at Night : To which is joined a new Method of examining the accurate degree of Salubrity of the Atmosphere. By John Ingen-Houfz, M. D. F. R. S. 8vo. London.

SEVERAL years ago, that accurate philosopher, the Rev. Dr Priestley, in his experiments on different kinds of air, made the important discovery of the wonderful powers
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that all plants possess, to a greater or less degree, of correcting the impurity of any bad air which at the time happens to surround them; and our author, in the volume before us, has entered on a farther prosecution of that subject.

In experiments of this kind, we commonly find them so much connected, and one depending so much upon another, that an abridgment or analysis of them cannot with propriety be given; we must, therefore, rest satisfied with communicating to our readers the general results which Dr Ingen-Houze has drawn from these experiments.

He observed, that plants not only have a faculty to correct bad air in six or ten days, by growing in it, as the experiments of Dr Priestley indicate, but that they perform this important office in a complete manner in a few hours; and that this wonderful operation is by no means owing to the vegetation of the plant, but to the influence of the light of the sun upon the plant; a conclusion that might in part have been suggested by Dr Priestley's discovery of a like fact, exhibited in the case of the green matter yielded by
certain

certain stagnating waters, which is known to be merely a vegetable production.

He found, moreover, that plants have a most surprising faculty of elaborating the air which they contain, and which they are continually absorbing from the common atmosphere, into what philosophers now term, *fine dephlogisticated air*; that they pour down continually, if the expression may be allowed, a shower of this depurated air, which diffusing itself through the common mass of the atmosphere, contributes to render it more fit for animal life; that this operation is far from being carried on constantly, but begins only after the sun has for some time made his appearance above the horizon, and has by his influence prepared the plants to begin anew their beneficial operation upon the air, and thus upon the animal creation, which was stopt during the darkness of the night.

He affirms, that this operation of plants, is more or less brisk in proportion to the clearness of the day, and to the exposition of the plants being more or less adapted to receive the direct influence of that great luminary; that plants shaded by high buildings, or growing under the dark shade of other plants,

do

do not perform this office, but, on the contrary, throw out an air hurtful to animals, and even contaminate the air which furrounds them ; that this operation of plants diminishes towards the close of the day, and ceases entirely at sunset, except in a few plants which continue this duty somewhat longer than others ; that this office is not performed by the whole plant, but only by the leaves and green stems which support them ; and that the acrid, ill-scented, and even the most poisonous plants, perform this office in common with the mildest and most salutary.

He maintains, that the most part of leaves pour out the greatest quantity of this dephlogisticated air from their under surface ; that young leaves not yet come to their full perfection, yield dephlogisticated air in less quantity, and of an inferior quality to that which is produced by full grown old leaves ; that some plants elaborate dephlogisticated air better than others ; that some of the aquatic plants seem to excel in this operation ; that all plants contaminate the surrounding air by night, and even in the day-time in shaded places ; that some of those, however, which are inferior to none in yielding beneficial air
in

in the sun-shine, surpass others in the power of infecting the circumambient air in the dark, even to such a degree, that in a few hours they render a great body of good air so noxious, that an animal placed in it loses its life in a few seconds.

He contends, that all flowers render the surrounding air highly noxious, equally by night and by day ; that the very roots removed from the ground have the same property, some few however excepted ; but that, in general, fruits have the same deleterious quality at all times, though principally in the dark, and many to such an astonishing degree, that even some of those fruits which are the most delicious, as, for instance, peaches, contaminate so much the common air, as would endanger the lives of those who might be shut into a room in which large quantities of such fruits are stored up ; and that the sun by itself has no power to mend bad air without the concurrence of plants, but on the contrary is apt to contaminate it farther.

These are the most material conclusions deducible from the experiments of Dr Ingen-Houfz. Any one who wishes for more particular

lar

lar information, will find his curiosity amply satisfied by a perusal of the book itself.

XXIV.

Principles of Electricity; containing divers new Theorems and Experiments, together with an Analysis of the superior Advantages of high and pointed Conductors, and an Explanation of an electrical returning Stroke, by which fatal Effects may be produced even at a vast Distance from the Place where the Lightning falls. By *Charles Viscount Mahon*, F. R. S. 4to. London.

IN the first pages of the present performance, there occur very proper remarks on Mr Canton's well known electrometer, in which elder-pith balls are suspended by linen threads proceeding from a common centre. It is observed, that these threads should hang parallel, in order that the balls may diverge justly and with a small force; and it is added, that the threads should be of fine flax, subdivided as much as possible. Cork-balls also are here substituted for those of elder-pith, for reasons not mentioned; the diameter of them, however,

ever, scarcely exceeding $\frac{1}{12}$ of an inch, and the threads suspending them being of the length of 8 inches.—In the following experiment, to prevent any twisting, the suspension of the balls was effected by fine straws, which were soaked in salt and water, to enable them to conduct the better; each leg of straw terminating at the top, in a linen thread only $\frac{1}{12}$ of an inch long.

His Lordship having first cautiously dried (by means of fire), and afterwards exhausted an air-pump receiver, so as to leave in it but $\frac{1}{117}$ part of its elastic matter, found, that the divergence of the balls placed within it, though communicating all the while with a charged conductor, diminished from $2\frac{1}{2}$ inches, (which was the distance they preserved in air), down to $\frac{1}{4}$ of an inch. In this situation, the glass-receiver itself was next electrified; but yet without much addition to the divergence of the balls. Upon returning the air, however, though the apparatus at that time received no fresh supplies of electricity, the balls diverged again considerably.—From these appearances chiefly we find, that his Lordship is led to conclude, that an electric atmosphere is composed of air contiguous to the charged body that is

VOL. VII. R electrified

electrified: And, having adopted this conclusion, he deduces from it, or connects with it, various other principles.—But the following objections have occurred to this his first conclusion. *1mo*, That in a common receiver nearly exhausted of air, the electric fluid finds a passage for itself so easy, that it admits neither of being accumulated, nor even excluded, (when negative electrification is required), except in a small degree: And from this cause alone the balls might here diverge less than usual, both in the case of a positive and of a negative electrification; since in the former situation it would be difficult to shut the fluid in, and in the latter case difficult to keep it out. And were the air-pump *insulated* in order to prevent such a passage, it must be recollected, that when the several parts of the air-pump apparatus, as well as of its vacuum, become by this means themselves permanently charged; such charges surrounding and operating upon the charged balls, will, to a certain degree, again check their divergence, by exerting a force on their outer side that tends to counteract the force that would separate them on their inner sides. *2do*, By the law of hydrostatics also, we know that bodies in
crease

crease or decrease in their apparent weights, according to the rarity or density of fluids they are immersed in ; so that the changes taking place in the density of the elastic matter of the receiver, in which the balls were suspended, must be one among the reasons why the balls tended to collapse upon the air's exhaustion, and to diverge somewhat more upon the air's return. *Lastly*, It is well known, that electric atmospheres are very suddenly made manifest round bodies that are suddenly charged in dry air ; whereas dry air, in other cases, is not supposed capable of having charges *suddenly* diffused through it, (a persuasion to which his Lordship himself has appeared at times to accede) : To this it may be added, that the power of dry air to insulate charged bodies, is held to depend solely on its non-conducting power ; charged bodies not losing any sensible electricity, by being whirled through a vast tract of successive portions of dry air.—Till the hypothesis in question, then, is cleared from such apparent objections, it may be prudent to suspend our notice of the whole of the supposed deductions that are made from it.

Two incidental circumstances, however, are stated on this subject, which claim more im-

mediate attention. The *first* is a remark which is in fact practically taken for granted by many electricians ; namely, that in storm machines the charge will not strike at its greatest distance upon given bodies, till *after* it has been made to strike at some smaller distances, the charge thus bearing somewhat of the appearance (to speak familiarly) of being gradually enticed forwards. His Lordship, who supposes that it is the *electricity itself*, contained in an electric atmosphere, which serves suddenly to conduct away that charge, attributes the appearance to the previous discharges having left some of their electricity behind them in the air, so as thereby to increase its conducting powers : But it may possibly rather be owing to the air being now so saturated with electricity, as no longer to deduct any thing from the succeeding fluid while in its passage through it ; and consequently, to admit a more distant projection of the succeeding stroke now that it is preserved entire. But perhaps the case may require some few experiments, to establish more fully both the particulars of the fact, and of the theory by which to explain it. As to the *second* of the circumstances alluded to above, as mentioned by his Lordship

is an experiment stated to have been made by Mr Achard of Berlin, who is said to have found, that a more tapering point not only discharges more electrical fluid than a less tapering one, but even more than *nine* tapering points distributed upon a polished metal base of an *inch* in diameter; which his Lordship attributes to the single tapering point having jutted out beyond the atmosphere of electrified air subsisting in the contiguous charged bodies, and having of itself no sufficient surface to form any such atmosphere of its own; whence it makes less resistance both to the entrance and the exit of foreign fluids, than happens in the other two cases, where more accumulated atmospheres are found opposing.

His Lordship, quitting for the present this part of his subject, next proceeds to the case of an *insulated body* plunged in an oppositely charged atmosphere; in consequence of which, it is known immediately to become divided into a positive, negative and neutral state, respecting its own proper electricity; (as is here proved at large by a set of express experiments). But his Lordship now goes on to add*, with respect to the *neutral* point, that

it must by theory always lie in that plane which divides the whole mass of the fluid into *equal* portions: And, in order to find out by a farther theory the place of this *plane itself*, he enters * into a mathematical discussion of its necessary situation, in the two cases of the density of the fluid being either in the simple inverse ratio, or else in the inverse ratio of the square, of the distance; and he is led to affirm from a mixture of experiments and of calculation †, that the situation which belongs to it upon the latter hypothesis, is that which it possesses in fact. He concludes by saying however, that great care is to be observed in the experiments; and that very important results are moreover to be drawn from the law itself; which results he promises to state in another work, together with the reason of the law.

His Lordship now ‡ comes to speak in a more general way, of the *returning stroke* arising from that sudden restoration of balance to the [natural] fluid in conducting bodies, which follows upon the sudden removal of any charge in neighbouring bodies that had occasioned a disturbance of it. The fact, thus generally stated, is certainly not unknown to many electricians

* § 108, and 129.

† § 149.

‡ § 202, and 248.

tricians ; but his Lordship seems to have been the first who has made it a direct object of consideration ; and while he is illustrating the case by experiments, it is observable, that he throws a variety into these experiments, which tends to confirm his own opinion in favour of the influence of points. The power of this stroke, his Lordship goes on to say, is in particular increased, both by increasing the surface of the immersed body, and by using proper management as to the distances ; and we farther find it stated, that by too close a situation to the conductor, we may diminish the direct stroke at the same moment that we increase the returning one.

A summary, however, of these and other maxims being given in § 307, we go on to his Lordship's consideration of the *effect* of the returning stroke in the greater operations of nature ; where he supposes, that in a suite of similarly charged and connecting clouds, injury may proceed in one place from a direct stroke, in a second place from a returning stroke, while a third very extensively *intervening space* shall perfectly escape injury from every kind of stroke whatever. The cases of injuries, owing to a returning stroke from lightning,

have certainly never been described as such ; yet the silence observable on this head, we find attributed merely to the circumstance of no one being aware that strokes of such a nature could exist : For his Lordship conceives, that where people have been merely knocked down at the time of a flash, or have had their shoes torn, or have observed electric effects at half a mile or a mile's distance, for instance, from the place of the direct stroke, or have discovered sparks at these times passing along a broken metallic communication ; the returning stroke was in all these several cases actually taking place.

His Lordship moreover adds, that, against this returning stroke, common *blunt* conductors cannot give us complete security ; nor yet even the insulation of the spectator, if strongly affected by the pressure of the cloud's electric atmosphere, unless situated at the same time apart from other conducting substances. As to the objection arising from the *distance* of the places supposed interested in this effect, though one or more *miles* asunder, his Lordship does not attend to this as having much weight : But he more particularly anticipates the objection to be drawn from the small quantity

quantity of fluid that in some of these cases must be supposed likely to return, in consequence of the *body* to which it belongs being itself but small: For his Lordship attributes the effect here chiefly to the *suddenness* of the return; and, as a small and weakly charged prime conductor produces some effect, he supposes the immense compass, as well as strength of operation in the atmosphere of a thunder cloud, will produce a greater effect in an exact proportion. Perhaps, however, there is considerably too much influence attributed to this returning stroke, where the body subjected to it either communicates with no ulterior conducting substances, but remains as in a *cul de sac*; or else, though it should communicate with such ulterior conductors, is outdone in its conducting power by the neighbourhood of a proper metallic communication, (well connected with the moist earth below, and with the charge above). It may also admit of farther remark, that his Lordship in *this* place appears to have neglected a particular supposition that might have added much weight to his apprehension of danger from this returning stroke, which is this; if a *detached* lower cloud has its own proper fluid disturbed in its position

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by an approach to a higher charged cloud, and suffers an alteration in quantity during this precise situation, by having accidentally communicated, for instance, with some lower conducting body ; whenever the discharge of the higher cloud occurs, it is plain that the lower detached cloud will instantly seek the recovery, not only of the just position, but of the just *quantity* of its own fluid ; in which case, if bodies that intervene between it and the earth, are made use of to transmit the difference, a proper returning stroke will take place, to the possible violent injury of various bodies which have their share in such transmission.

But, coming back again to his Lordship, we shall find him next bestowing his attention on the effect of *blunt and pointed terminations*, both on charged clouds and their electric atmospheres. And here he denies (perhaps prematurely) that there is any proper attraction or invitation in the case, either of balls or points ; but says, that the cloud merely thrusts off its charge against each of them ; and that while the ball, by its atmosphere of charged air, offers resistance to a passage, the point, from its want of such atmosphere, admits of an easy passage ;

passage; the fluid, he supposes, flowing through the point much after the manner that water flows through a *pipe*. His Lordship then proceeds to say, that lightning may injure under the form of a direct, of a lateral, and of a returning stroke. On the case of the *direct* stroke, whether considered as impending immediately from a primary cloud, or more mediately from a dependent one, he produces facts in favour of points that are on the whole pretty similar to those urged by various other electricians; and, in situations where the point is perfect in its communication with the moist earth, he says it will silently and gradually disperse a charge, before it arrives at its striking distance; an advantage which he affirms cannot properly attend the use of balls. As to the *lateral* and *returning* strokes; when the direct stroke, which is the cause of them, is prevented or lessened, nothing can be clearer, he observes, than that other strokes which are the effects of it, will also be prevented or lessened; an assertion, as far as it relates to the returning stroke, that is here supported by fresh experiments.

In § 519, his Lordship enumerates a number of rules to be attended to in erecting conductors for lightning.

In § 545, his Lordship introduces the mention of another farther advantage which he attributes to pointed rods; namely, that of their operating most powerfully when the clouds are most strongly charged. He gives his reasons for this pretty much at length; some of which partake of his own peculiar theory; but it will be thought the more obvious of his several explanations, to say, that in this situation the fluid has an *increased* tendency to press against and enter the point. It is very properly hinted in this place by his Lordship, that as the low clouds from their position necessarily get rid of a charge as soon as it tends to become in any degree particularly formidable; the most powerful strokes are those which proceed from the *higher* and more distant clouds; and it is equally properly added, that when the *air* [below * the clouds] is *dry*,
this

* The assertion is here limited to the air below the clouds; because, in the upper regions, it is amidst moist air and clouds that the charge both subsists and is produced. In § 568, these circumstances again appear to be forgotten, when we are told, that clouds find it most difficult to recruit their electricity when the air is very dry; whereas the state of the air below is not only no mark of the state of the air above; but were it allowed

this incident again will contribute to the power of the stroke. It is in proportion, however, to all these dangers, that his Lordship confides in his *point*.

In the APPENDIX, with which the whole concludes, his Lordship mentions some things not yet spoken of, and which are well worthy of our notice. *Imo*, We have a case produced, in which, by making the insulated body much larger than the charged body to which it is contiguous, the *returning* stroke is obtained even stronger than the *direct* one; which appears singular, and in particular cases may become important to be attended to; yet in fact may be found only to resemble that difference of stroke known to proceed from small compared with large prime conductors, from weak compared with powerful Leyden jars, though both conductors and jars have been successively charged from the same electrical machine. But without stopping for such explanation as might perhaps be given to these circumstances, we shall only farther observe, that his Lordship, in reasoning upon his own experiment,

as a mark, the moisture that is found prevailing lower down, may have very different operations from that which is found or generated higher up.

experiment, does appear to confider altogether enough, that the fame human body, which at one time judged of the ftroke, by augmenting the bulk of the apparatus, helped alfo to increafe its force. *2do*, In order to confirm an hypothefis concerning the dependence of the force of the returning ftroke, on the degree of fuddennefs with which the fluid reverts to its juft diftribution, his Lordfhip relates a cafe of a very large charge, which he had taken without permanent inconvenience, merely in confequence of its being conveyed to him flowly by means of bad conductors. *3tio*, His Lordfhip filently difperfed a charge only by presenting to it a wire as thin as a fine horfe-hair, whole pointed ends were all the time covered with wax. Many electricians have filently difperfed a charge by a pointed fubftance, which, though it had depth of matter, wanted both length and breadth ; and others have difperfed it by an edge, which, though it had depth and length, wanted breadth ; but it feems to have been his Lordfhip who firft thought of uſing fubftances like wires, which reſemble lines in having length, but which want both depth and breadth. *4to*, We are next to remark, that cautions are given to thoſe who,
for

for the purpose of experiment, with to construct an apparatus for collecting electricity from the clouds. 5th, In the last place, his Lordship observes, that a coating of certain non-conducting substances enabled a very small wire to bear a higher stroke than usual without becoming exploded: But perhaps it is to be doubted, whether his Lordship has explained the whole of the circumstances, when he attributes this to the coating having first fused, and then, by becoming a conductor, in effect adding to the substance of the wire. It seems best, therefore, to examine this matter by further experiments.

On the whole, concerning this performance, it remains only to remark, that the noble author has proved himself a most laborious investigator, and an equally faithful relater; and that his love of enquiry is as rare as it is meritorious in one of his rank. His acquaintance with the mathematics (which is well known to be a sort of inheritance from his noble father the Earl of Stanhope), may perhaps be thought too much applied at certain moments; and his experiments may also seem too extensively related, in cases where a table (like that used by Dr M'Bride in his Enquiries
upon

upon Fixed Air) would perhaps have exhibited them more intelligibly and more usefully; but these objections, with others concerning the too frequent use of Italics, and the general mode of division applied to the Work, would scarcely be worth repeating, in a case where there are so many merits, were it not that his Lordship promises other publications (on Leyden jars, points, and balls, &c.), where these circumstances may perhaps be differently attended to. We conclude here, therefore, with observing, that the present publication is certainly a respectable one, and contains facts materially worthy of attention; as will perhaps have appeared from the analysis of it above given.

XXV.

Dissertatio Botanico-Medica de Catechu. Auctore
 Carolo-Henrico Wortmuller. Goettingæ.
 4to.

THIS substance was known to *Gracias ab Horto*, so far back as the year 1563. He describes it under the name of *Cate*, according to the idiom of the Indian nation among whom

whom he lived. *Wolfgangus Wedelius*, in the year 1671, speaks of it as having been introduced into Europe but a few years before; and, at the same time, mentions several successful trials made with it in diseases. Our Author, after enumerating a variety of names, by which catechu has been known, and which he thinks have chiefly originated from the different mode of pronunciation used by European nations, observes, that the French have given it the name of *terra Japonica*; which has been productive of two mistakes which have long prevailed; the one, that catechu is an earthy substance; the other, that it originally came from Japan. Our Author, upon the authority of *Cleyer*, observes, that this juice was carried in great quantity by the Moors and Chinese to Japan. He next proceeds to inquire from what plant, and from what part of the plant, catechu is produced. The *areca*, a well known tree in Indostan, appears, from a variety of authorities, to be the one from which catechu is procured.

Our Author joins in opinion with Mr Kerr, who resided for some time in Bengal, in referring the *areca* to the genus of plants known by the name of *mimosa*.

After describing the mimosæ in general, we are presented with a particular account of that species which affords the catechu. The method of preparing catechu is the next object of consideration, which is narrated upon the authority of Mr Kerr, from the London Medical Observations. . . From his account, it appears, that this juice is extracted from a decoction in water of the internal coloured part of the wood previously cut into chips. An unglazed earthen vessel is filled with these chips, and a quantity of water is poured on, sufficient to cover them, which is boiled into one half; the decoction, without previous filtration, is then thickened, till a third part only remains in a flat earthen vessel. It is then farther inspissated, by standing in a cool place for one day, and afterwards by exposure to the heat of the sun with frequent agitation. The mass having by these means acquired a conspicuous consistence, is laid upon a mat or cloth strewn with ashes of cow dung, is cut into quadrangular pieces, and perfectly dried in the sun-shine.

Mr Wortmuller proceeds to give the marks by which the good and genuine catechu may be distinguished from what is sophisticated.

He

He prefers such pieces as are externally more pure and not so rough as others, while at the same time they appear to be marked with the impressions of a coarse cloth-search, the internal substance of which is firmer, without interstices, and easily separated into *laminæ*, having a shining appearance only on the edges, of a pale white or flesh colour, sometimes with shades of a deeper brown.

He prefers such as, when reduced to a subtile powder, appears of a whitish red colour, impressing the tongue with an astringent and strong disagreeable taste, to which an agreeable sweet one, like that of liquorice, succeeds, and at the same time imparting a mucilaginous quality to the saliva.

By an experiment instituted by our Author, it appears, that catechu possesses very considerable antiseptic powers.

From an accurate chemical analysis, Mr Wortmuller concludes, that catechu consists of a gummy and resinous part, united by the intervention of an alkaline salt.

After enumerating the different officinal preparations of catechu, as ordered in various Pharmacopœias, our Author proceeds to notice the diseases in which it has been found

useful ; but in this part of his work we think it unnecessary to follow him ; our limits will not admit of a recapitulation of what every practitioner must be already fully acquainted with.

S E C T.

S E C T. II.

Medical Observations.

I.

The History of a Dropsy of the Ovarium, terminating fatally; with an Account of the Appearances on Dissection. By Cuthbert Johnson, M. D. of Sherborne, Dorset.

A N N H——r, of the parish of C——e, in Dorsetshire, aged twenty-one, about the beginning of the year 1777, observed herself greatly to increase in size. And the menstrual discharge ceasing about the same time, she declared herself pregnant by a young man who

frequented her company. She continued to increase in bulk until the usual period of gestation was some time past; when several eminent practitioners in midwifery were from time to time consulted, who upon examination declared her not to be pregnant. But from an hard substance which might be felt through the teguments of the abdomen, seemingly about the bigness of a child's head, one of the gentlemen was inclined to think there was an extra-uterine conception. A variety of medicines were administered without effect.

When I first visited her, in July 1778, she appeared to be bigger than most women with child are at their full time. Her flesh was a good deal wasted, yet her appetite not bad; and I was informed that a few weeks before, she had thrown up four or five quarts of a brownish fluid. I could not be clear that I felt any fluctuation by gently striking the abdomen; but I could easily feel the hard round moveable body under my hand. Upon consideration of the case, I was of opinion it was a dropsy of the ovarium, and proposed tapping as the only measure from which relief could be hoped for under such circumstances. Being weary of the burden, she readily complied, and

and the attending surgeon, with a common-sized trocar, drew off about five pints of aropy fluid; no more could be obtained by pressure upon the abdomen, or movement of the canula. About this time her left leg and thigh became anasaruous; and two months after, she desired to be tapped again, which was performed with a trocar of the largest bore in use. A gallon of fluid was obtained, of the same consistence with the first, and tinged with blood; she declared she would not undergo another operation, and survived this only eight days. A call to a patient at a distance prevented my being present at the opening of her body. The following account I had from one of the surgeons present.

Upon opening the abdomen, about nine quarts of a bloody fluid were discharged; the uterus was found in its natural unimpregnated state. The left ovarium was found and perfect; the right ovarium appeared to be a large fleshy mass, which when cut out, weighed nine pounds. It was of a roundish form, and had been pierced by the trocar at the last operation; it adhered to the neighbouring parts, and was full of large cysts, which contained a quantity of brownish, greenish, and

other coloured glutinous matter. The liver, stomach, and intestines, were in a sound state.

II.

The History of a Case of Rheumatism cured by the Volatile Elixir of Guaiacum ; communicated in a Letter from Dr Thomas Fowler, Physician at Stafford, to Dr Duncan.

SINCE the introduction of the liberal use of the tinctura guaiacina volatilis into practice in the treatment of rheumatisms, I have had several opportunities of seeing the good effects of this medicine in certain chronic cases, which you have justly observed to be of an intermediate nature, being neither wholly phlogistic nor atonic.

A remarkable instance of this sort, a lumbago, I have had under my care this month, and think it very similar to the strongly marked case of Sarah Mills, successfully treated with the same medicine, as related in your first volume of Medical Cases. In acute cases I have also seen the most wonderful effects from this medicine, exhibited according to Dr Dawson's

Dawson's directions ; although, from theory, one might justly be afraid of its stimulating powers. At the same time, from experience, I am quite of your opinion, that its effects are very inconsiderable in cases purely atonic, and of long standing.

I find, agreeable to Dr Dawson's observations, that this medicine answers the best, when it acts both as a sudorific and laxative, giving two or three stools in twenty-four hours ; and, in acute cases, that venesection ought to be premised.

The following case affords a striking example of the good effects of it :

Joseph Stephenson, aged thirty-six, was admitted an out-patient to the Stafford Infirmary, August 6. 1779.

He is a farmer's servant, of a strong healthy constitution, and complains of a constant deep seated pain in his loins, extending down to the os sacrum ; also to both his hips, and down his thighs, especially on the right side.

The pain in his loins is so acute, that he can neither raise his body erect, nor yet bend it in the least forward from the present inclined position. He says, that he suffers the most when sitting down, or rising from his seat,

feat, particularly the latter; also, that his pains are always aggravated within half an hour, or an hour, after being in bed; and that all the parts affected are very sore to the touch.

His pulse is natural, and moderately strong; his appetite good; his sleep much disturbed from pains; and his body has been all along bound, except when opened by medicines.

His complaints began on the 12th of July, with feverish symptoms, which only went off about a week ago, when his appetite returned. He has been once bled and blistered, and has taken some opening medicines. He attributes his disorder to catching cold. *Capiat elixir guaiacini volatilis unc. ss. in unc. ii. aquæ puræ, cum regimine, omni nocte.*

Let him avoid all fermented liquors, and live chiefly on vegetables.

August 9th.

His medicine, assisted by repeated draughts of warm balm-tea, has sweated him freely, for six or seven hours every night, and given him two loose stools every 24 hours, with considerable relief, even from the first exhibition; and he now finds himself much easier from pain, both in his loins, hips, and thighs. Continue-

tur

tur elixir guaiacinum volatile ut antea. Utatur æger pediluvio omni nocte horâ decubitus.

August 14th.

The elixir has continued to sweat him very freely every night, and has given three or four loose stools every 24 hours, with progressive relief. The pains in his hips are very nearly gone; those of his thighs much lessened; and the pain of his loins so much abated, that he can bend his body half way to the ground without inconveniencé. His appetite continues very good, and he sleeps well.

Continuetur elixir guaiacinum volatile cum regimine: omittatur pediluvium.

August 18th.

The elixir has continued to operate, both by sweat and stool, as usual, and with the same advantage; for, within these last two days, all his complaints have entirely gone off, except a very slight pain remaining in his right thigh. He can now stoop to the ground without pain; and yesterday was able to move, for eight or nine hours, without inconvenience; and thinks himself well enough to go through his usual labour.

Omittatur

Omittatur medicamentum.—Let him be dismissed.

N. B. August 26th. I have seen this patient at work to-day, and find, that in a day or two after the last report, the slight pain in his thigh vanished, and that he has continued perfectly well ever since.

III.

The History of a Case of Puerperal Fever ; with Remarks on the Treatment of that Affection in general : Communicated to Dr Duncan by Dr Edward Johnstone of Kidderminster.

M. P. a young woman lying-in of her first child, was, on the second day after delivery, seized with a violent puerperal fever. My father (Dr Johnstone of Kidderminster) was called to see her, after she had been ill three days.—He found her pulse exceedingly rapid, and rather vacillating, but with frequent hard strokes. She had severe pain in the lower region of her belly, which returned by fits, and made her shriek. Her belly was inflated, and she could scarce bear the

the

the weight of the hand upon it. She had but few stools, and made water regularly.—Her milk and lochia had been suppressed from the second day after delivery.—She complained of great sickness, and immense thirst; and was continually craving for cold drink. Barley-water and gruel were ordered for common drink. A glyster, with half an ounce of oil, as much manna, and a scruple of nitre, were ordered to be injected daily; and the following draught and mixture.

℞. Tart. emet. gran. unum, Pulv. rhei, scrup. ii. Succ. limon. rec. express. (saturat. sal. absinth. q. s.) aq. font. aa unc. ii. Sacch. alb. drach. ii. M. et divide in haust. iv. quorum cap. unum mane & vespere.

℞. Succ. limon. rec. express. unc. ii. Sal absinth. drach. i. aq. font. aq. cin. ten. aa unc. iii. Sacch. alb. semunc. ft. mist. cap. cochl. ii. tertiis horis.

Appl. hypogastrico emplast. vesicat. & mitt. sang. e brach. ad unc. viii.

The blood was covered with an inflammatory crust, and a second bleeding was ordered, which was omitted. She had stools from the draught; but the discharge from the uterus was small and putrid, and she had almost a
perpetual

perpetual vomiting of a black matter. Her pulse was immensely quick; no sleep, but her pain a little easier, after she was bled, and the blister applied. Flannels wet in warm infusions of chamomile were ordered to be applied to the abdomen.

She died on the next evening (that is, on the 4th day of the disease), and her body being opened, the uterus appeared contracted to the size of a small round flask, which would contain a pint. It was covered over with a purulent membrane, in the manner all inflamed parts are, and there was a most remarkable redness about the fundus uteri, and the ovaria. The internal surface appeared to be rotten; on each side of the uterus, about two or three spoonfuls of very thick pus, and a great quantity of serum, were found. The whole colon, and the epiploon seemed much inflamed. The inflation of the colon had caused the tumefaction of the abdomen. But it was sufficiently evident, that an original inflammation of the uterus had brought on the irritation and inflammation of the more sensible intestines.

The following method was used at Kidderminster with considerable success, by my father,

ther, when the puerperal fever was epidemic there, in the year 1777.

If the pains were very severe, and the patient had not been previously bled, he ordered her to be bled once. If there was any vomiting of bilious or black matter, he generally recommended that the stomach should be washed with warm water, or chamomile tea; and when the vomiting continued in such a degree as to require any thing of the anti-emetic nature, he ordered the mixture of Riverius in the state of effervescence. But when none of these circumstances intervened, he immediately ordered the patient to take an ounce or two of the oleum ricini, mixed with an equal quantity of weak rum or brandy and water, which he has experienced to be the best vehicle of this medicine. After this, the following emulsion was ordered:—℞. Emulf. com. lb. i. mannæ unc. ii. sal nitri drach. i. ft. emulsio. Cap. cochl. iii. om. hor.

At the same time a glyster was ordered to be injected two or three times a-day, as circumstances required, consisting of three parts of a pint of warm water, and an ounce and a half of saccharum culinare; and this simple injection, without the addition of oil or other purgative

purgative ingredients, was found more effectual for the purpose of encouraging diarrhœa in this disease, than when such ingredients were added. By this method, a considerable diarrhœa was for the most part excited, and the pains about the uterus, and the fever, generally visibly abated in twenty-four hours; by supporting such a diarrhœa by the occasional repetition of the oleum ricini, as well as by a repetition of the emulsion and the glyster, or occasional doses of the following medicines:

℞. Tamarind. mannæ aa uncias duas, coque ex aq. hord. lb. i. ff. ad lb. i. colaturæ adde tart. solub. unc. i. sacch. alb. unc. ff. Tart. emet. gr. iii. ft. apofem aperiens cap. cochl. iii. bis vel ter in die pro re nata.

℞. Pulv. rhei opt. drach. ff. Succ. limon. rec. express. (satur. sal. absinth. q. f.) unc. ff. Aq. hord. unc. i. Sacch. alb. drach. i. ft. haust. pro re nata sumend.

A profuse diarrhœa excited by these means, at the beginning of the disease, hardly ever failed to give an immediate check to it, and to abate the pain, its most formidable symptom, in a remarkable manner. But, in many cases, it will be necessary to keep up this diarrhœa

arrhœa for some time, in such a manner as the pain and other symptoms of the disease require, and the strength will bear, while any degree of tumefaction in the abdomen, or fulness in the belly, or pain, or fever remains. The lochia, for the most part, return as the fever abates; and a very extraordinary fœtor attending the return of this discharge, points out the nature of that fomes which undoubtedly acts as a considerable incentive of this disease: and if the milk had been stopt or prevented by the fever, it soon returns upon its abatement, as will also the lochia. The air of the room was kept temperate and fresh by a door being constantly open, and a casement occasionally opened to admit it. The room was also swept clean, and frequently sprinkled with vinegar and water. The patient was ordered to drink barley-water, water-gruel, and thin panada; sometimes a little small wine-whey was allowed; but in general it was very sparingly employed. Spirituous liquors were absolutely forbid, as well as broths, and every species of animal food. The linen and sheets of the patient were changed so as to keep them clean and pure.

Under this management the patient's recovery was for the most part greatly advanced by the fifth day ; and hardly any fever remained by the seventh. If it continued after this time, the patient was sometimes seized with pleuritic stitches and cough, the inflammation having changed its place from the parts about the uterus to those about the breast, which required a treatment similar to the pleurisy, by bleeding and the antiphlogistic method. In other instances, where the fever did not cease by the seventh or ninth day, it became perfectly putrid. In such a case, a moderate diarrhœa was supported, wine more freely added to the patient's drink, and the bark and other antiseptics administered.

IV.

Case of the successful Treatment of Hydrocephalus Internus, by Mercury. By Mr John Mackie, Surgeon in Huntingdon.

JOHAN ALGOOD, aged twenty-seven, of a thin habit of body, accustomed for four or five years past to work in a tan-yard in a very stooping posture, was attacked in the beginning of May with an irregular intermitting fever,

fever, accompanied with much pain in his joints. These complaints continued till about the middle of June, when he was seized with a violent and constant pain in the back part of his head, attended with great giddiness, noise in his head and ears, dimness of sight, &c. and his fever became more continued. He lay in this state upwards of a month, without receiving any benefit from some medicines which he took during this period.

I was called to him in the middle of July, and found him labouring under the following symptoms: A fixed pain on the right side and back part of his head, which was frequently so acute as to make him quite outrageous, crying out, tearing his hair, beating himself on the head, &c. He had such a giddiness, that, unless strongly held, he could not support himself a moment in an upright posture. He could not bear the light, and when he did venture to open his eyes, could not see objects distinctly. His pupils were uncommonly dilated, and his right eye seemed drawn outward, and rather contracted in its volume. He complained of a strange palpitating noise in his head and ears, and said, he felt at times as if there was a weight of water falling from one side of his head to the

other. He was, in general, sensible ; but on asking him two or three questions together, he became confused, and, like a person with an oppressed brain, answered, with hesitation, quite wide of the question, and often opposite to what he meant. Along with these, he had a hot skin, a small quick pulse, thirst, a foul tongue, urine in small quantity and high coloured ; he was emaciated, sick, constive, and sweated much ; had often a kind of stupor, but very little sleep. Once in the twenty-four hours, he had generally a remission (of three or four hours continuance) of the febrile symptoms, but of none of the other complaints.

What follows are the notes I kept of the progress of the disease, and its treatment.

July 16th. Ordered three or four leeches to be applied to each temple immediately ; an emetic to be taken in the evening, and a cooling purge to-morrow morning.

17th. Called in the evening, and found the leeches had taken away a good deal of blood, and the vomit and purge operated well. No change in the complaints, except that the sickness is a little abated. He screamed greatly on attempting to raise his head from the pillow. Ordered

Ordered his head to be shaved, and a sharp blister to be applied all over the occiput, large enough to cover the nape of the neck; also, one on the inside of each leg. Internally,—
 ℞. Nitri puri, dr. fs. Gum. camphor. gr. iv. M. f. pulvis; quarta quaque hora, sumendus durante febrili calore. ℞. Pulv. cort. Peruvian. dr. i. Pulv. rad. Valerian. sylv. dr. fs. M. f. pulvis, exhibendus quamprimum remissio appareat, & repetendus, si ultra horas tres pergat. Thin milk-gruel and barley-water for drink.

July 19th. The blisters have discharged much, and he has taken the medicines punctually; but the fever and other complaints remain as before. Pulse very irregular; pain in the head and restlessness, extreme.

Left off the camphire, and in its stead added to each nitrous powder, one-fourth grain of tartar emetic. Dressed the blisters with the unguent. ad vesicatoria.

21st. Two doses of the bark and valerian were given during the two last remissions of the fever, which were full four hours each; but to-day there appears no kind of amendment. All the symptoms continue much the same. Shrieked out much, and talked incoherently,

when I saw him. Has had no stool since he took his physic. Ordered a laxative glyster to be thrown up directly, and the medicines to be continued as on the 19th.

23d. The glyster procured two motions. Has sweated profusely through the last 48 hours. Blisters have run freely. The two last diurnal remissions not quite so distinct. No abatement of the other complaints. The pain, giddiness, stupor, contortion of the eyes, &c. remain in as great a degree as when I first saw him. At this time, the long continuance of the disease, its hitherto having resisted every ordinary remedy, together with the still formidable appearance of the symptoms, made me almost despair of my patient; but having just seen the Cases published by Dr Percival and Dr Dobson, in which a set of similar symptoms were so successfully treated by mercury, I now began to think this a favourable opportunity for giving it a trial; therefore, I left off all other medicines, and ordered ten grains of calomel, made into a bolus with conserve of roses, to be taken at bed-time: At the same time, a dram of the strong mercurial ointment was directed to be rubbed into the ancles; and both to be repeated every night.

25th.

25th. Found no alteration. Fever and other symptoms the same. Blisters heal, having been dressed these two days with basilion. I ordered the calomel and mercurial friction to be continued as on the 23d.

July 26th. I was sent for to him to-day, and found him complaining much of being griped. Had two purging stools in the last 24 hours. His gums were a little tender, and his breath beginning to be tainted. In other respects, as usual. Left off the calomel, and ordered a double quantity of the mercurial ointment to be rubbed into his thighs every night.

28th. I saw every face about my patient pleased. They told me, he had had a calmer night than any these two months past. For the first time, he said the pain of his head was abated; he looked more composed; his skin felt cooler; his pulse more full, and not so quick. He complained of his mouth being sore, and his tongue swelled; and had discharged a good deal of saliva in the night.

I ordered only one dram of the ointment to be rubbed in, for the two next nights.

30th. He spit about three quarts during

the last 48 hours, and complains of much heat in his mouth; but to my great satisfaction, I found all his other complaints better. Pain in his head almost gone, excepting now and then a shoot. Giddiness much abated. He said he often felt a trickling kind of motion, as of water running along the inside of the temples; but this sensation was without pain. He could sit up in bed and feed himself; was sensible and in spirits. Pulse regular, and not above 70 in a minute. He has had a remission of upwards of six hours to-day; ordered the ointment to be left off.

Aug. 1. Continues to spit freely. Had yesterday a smart return of the fever, which however only held him about 12 hours. To-day there is a perfect remission, and he is in every respect greatly mended. Has had some hours good sleep. Complains very little of pain. Got out of bed for the first time; sat up three hours; and could even bear the light without being disturbed by it. Complained of being hungry.

Allowed plenty of milk-porridge and small broth.

3d. The spitting keeps up to about a quart in the 24 hours. Found him out of bed

bed to-day, and almost without complaints. He told me, his head was well, and that he only wanted strength, and to get rid of his fever and fore-mouth. The remissions were now almost as long as the paroxysms, being about 12 hours each. Has taken no medicine internally since he left off the calomel; and was costive.

I ordered him a dose of rhubarb; and, after its operation, a dram of the bark every four hours during the remissions.

Aug. 6. The spitting begins to decline. He has had no fever for the last twenty-four hours. He sleeps well, and has an appetite, if the foreness of his mouth would let him eat. Headach and giddiness gone; but his pupils still continue much dilated.

Ordered him another rhubarb-purge, and the bark to be continued every six hours.

9th. Has had no fever, or other complaints. Spitting inconsiderable; mouth better; aspect more natural; is able to walk about, and mends daily. I now allowed him a more generous and substantial diet, and continued the bark twice a-day for another week.

From this time, he continued to get strength apace; had good nights; good appetite; a perfect

perfect freedom from headach and fever; and, on the 23d, went to work, being in every respect quite well, and has continued so ever since.

This patient did not seem to receive the smallest benefit from the blisters, or any thing else, till he took the mercury, which acted like a specific; and the fever seemed to be altogether symptomatic, as it easily yielded after the other complaints were removed.

V.

Observations on the Benefit derived from the Use of the Cuprum Ammoniacum, in a spasmodic Affection of the abdominal Viscera, and in Hysteria. By Dr John Storer, Physician in Grantham.

THOUGH I cannot subscribe to the opinion of those who seem to believe, that cases of a singular nature, and such only as rarely occur in medical practice, are entitled to the attention of the public; yet, when an affection of this description occurs; when it bids defiance to every mode of treatment which a
due

due attention to the nature of the symptoms is likely to suggest ; when, in the end, it yields to a medicine whose powers are but little known ; the benefit arising to mankind, from communicating the result of such experience, is evident. No single case, it is true, can amount to a proof of any thing ; but it is to a collection of such histories, that we are indebted for the introduction of the most valuable articles in the *Materia Medica* ; and it is by these means alone, that we are enabled to ascertain the true nature and extent of their powers, and assign them their proper places in that class of medicines to which they belong.

The following case, in itself but little interesting, is related chiefly with a view to corroborate a late testimony in favour of a medicine whose virtues seem considerable, though hitherto not generally attended to.

Mrs —, a middle aged married woman, of a delicate habit, having formerly caught cold in child-bed, and being likewise under the influence of constant uneasiness of mind from domestic causes, became subject, for some years past, to a general tremor, extreme terror from trifling causes, and other symptoms

toms indicative of great irritability, and irregular action in the nervous system.

In May last, without any external cause, she was first seized with the paroxysms which shall be described, and which continued to gain ground both in violence and frequency, in spite of every method that was thought of for their relief.

I saw her first on the 28th of July, and was present soon after during one of the fits. She complained first of a palpitation of the heart, and a dull pain, attended with a sense of weight and oppression at the præcordia; soon after, she was seized with violent and repeated retchings, during which there was a trifling discharge by vomiting, chiefly consisting of the juices of the stomach; from this, the affection seemed to pass downwards, occasioning an uncommon heaving of the abdominal parts, and at the same time a feel, as if the bowels were twisted together in the most extraordinary manner; this symptom gave way in its turn, and was presently succeeded by a quick, confined, and irregular respiration, accompanied by a hoarse croaking noise in the throat, and a large discharge of froth from the mouth or nose; in a few minutes more,

more, she began to recover. Though she was able to give little or no account of her feelings during the latter part of the paroxysm, yet I am convinced there was no total abolition of the senses at any point of time ; nor were there any convulsions of the external parts, except slight twitchings in the face, and retractions of the eyes. The duration of the paroxysm was from 30 to 40 minutes, and of late they had recurred sometimes twice in twenty-four hours ; but always at irregular periods.

Such was the violence of the attack, that it left behind it extreme debility, wildness in the eyes, an universal tremor, a constant tearing cough, and an almost total loss of voice ; so that it was with difficulty I could guess at her meaning, when she wished to give me information with regard to her complaints. The pulse, which in the paroxysm was so weak and fluttering as to elude the finger, was irregular during the interval, and varied from 90 to 105 in the minute ; the skin was hotter than natural ; the tongue moist, but extremely foul ; the state of the bowels was uncertain ; costiveness, for a few days, was for the most part succeeded by frequent griping stools, but without producing

producing any change in the disease; the urine was natural, and the catamenia had flowed regularly since the beginning of the complaint.

When I saw her first, the continuance of the disease for ten weeks had reduced her so much, that it was with difficulty she moved from one room to another. Her appetite was gone; her complexion fallow, and she had suffered considerable loss of flesh.

In reflecting upon the nature of this complaint, I found myself unable to account for the symptoms upon any other supposition than that of a convulsive affection of the internal parts, which beginning with the heart itself, attacked successively the stomach, intestines, diaphragm, gullet and trachea.

I could readily discover several circumstances in the habit, which might dispose to such a complaint, but it was necessary to look farther; and I was of opinion, that some irritating cause lurking in the primæ viæ, might be what gave immediate occasion to it. To this idea I was led by a constant sense of weight and oppression at the pit of the stomach, which sometimes rose to acute pain, frequent retchings to vomit, and gripings in the bowels.

My first attempts, therefore, in the treatment of this case, were directed towards discharging or correcting this supposed exciting cause; and by some means to induce a different mode of action in the parts concerned.

Emetics were accordingly prescribed, and their first effects gave encouragement to repeat them. Their operation both ways, never failed to procure considerable relief from pain and oppression at stomach: but the state of the paroxysms was in no respect altered.

Antispasmodics were next had recourse to; among which, opium, castor, camphire, assafoetida, gum ammoniac, valerian, and the volatile alkali, were successively employed, in such doses and forms as seemed best to suit the circumstances of the case, and that for three weeks together, without the smallest advancement towards a cure; the region of the stomach was blistered; the warm bath was recommended without effect. That tonics might not be left untried, the extract of gentian was combined with the gums to no better purpose. What seemed to afford most relief was a medicine consisting of tinct. guaiac. v. tinct. theb. and vin. ipecac. This taken at bed-time, seldom failed to procure a comfortable

table night, with a soft perspirable skin ; but the fits returned with undiminished violence next day. My patient began now to despair of relief ; and whatever expectations might have been formed from the bark in diminishing the general irritability of the system, I was convinced the delicate state of the stomach could not admit of its being taken in quantities sufficient to produce that effect. I was therefore reduced to my last shifts, when the *cuprum ammoniacum* occurred to me as a medicine which deserved a trial in such a case : A history, now published by Dr Duncan, where its good effects had been sufficiently proved in a case of genuine epilepsy, had been related to me very circumstantially some years ago ; and I had myself seen it of use in a convulsive case more lately.

As my patient could not now swallow a pill, owing to the severe affection of the throat in the fits, I directed one-fourth grain of the *cuprum ammoniacum* to be rubbed into a powder, with a few grains of magnesia, and given morning and evening. Though she suffered much from the nausea, occasioned by so small a dose, and what was worse, vomited it up regularly for the first week, she
persisted

persisted resolutely in its use; the nausea at length ceased, the medicine was retained, and its salutary effects were quickly observable in a diminution of the fits, and an abatement of every troublesome symptom; the dose was soon increased to half a grain, and afterwards to a whole grain, twice a-day.

From this time, there was an evident and daily amendment; the paroxysms became both less violent and frequent: the pain and uneasiness at stomach yielded; the appetite began to return, with every symptom of convalescence. Since she began the use of the cuprum ammoniacum, no other medicine whatever has been prescribed to her; and she still continues to take the powders at intervals. She has now recovered her usual looks and strength, and has not experienced the smallest return of the fits since the beginning of September last, nor any other complaint, except that general tremor to which she has been subject for years.

As but very few cases are hitherto recorded with a view to ascertain the powers of the medicine in question, I have thought it necessary to state this case with a minute exactness, and a scrupulous attention to facts.

The conclusions to be drawn from it are simple, and will readily occur to those who peruse it. With regard to its mode of operation, I have hitherto considered the cuprum ammoniacum as a powerful tonic. Whether it exerts other, and peculiar effects, on the nervous system, in cases of convulsive affections, must be left to the decision of future experience.

In the light of a tonic alone, I will venture to pronounce it a valuable acquisition to the Materia Medica, in a thousand instances, where, from the caprice of the patient, or the extreme delicacy of the stomach, no other medicine of that class can be exhibited in such quantity as to give it effect.

The case to which I alluded, as having recommended the cuprum ammoniacum to my attention in convulsive cases, is that of a young lady, who for many years past, has been subject to the most violent hysterical fits I ever was witness to.

After complaining for some days of an oppressive headach, universal foreness of the muscles, total want of appetite, and a dry husky cough, she was suddenly seized with convulsions as violent and various in their mode

mode of attack, as hysterical paroxysms usually are. What rendered them peculiarly dreadful, was their continuing from four to five weeks together, during which period she was constantly confined to bed, and, as I am assured, never had an interval of more than three hours.

For five years these attacks had been in use to return every three or four months at most, and had not been lessened by a variety of methods recommended by some of the most eminent of the Faculty.

In May 1778, immediately after recovering from a violent and tedious attack, she began the use of the *cuprum ammoniacum*, and persisted in it for two months. Since that time, though the irregularity of the menses (the only evident cause of the fits) continues in the same degree as before, yet the paroxysms have not returned more than twice a-year, nor exceeded ten days in their duration. Thus, though the exciting cause is not removed, that disposition in the habit which favoured the disease seems to be much diminished.

To render this case more conclusive, I am still in hopes to prevail on my patient, who has a great aversion to medicines, to give the

cuprum ammoniacum a more complete trial. I have not myself met with an opportunity of giving the cuprum ammoniacum in any case of genuine epilepsy. Since writing the above, however, I have received a letter from Mr Bland, a surgeon of eminence at Newark, to whom I recommended this medicine. An extract from it will make a proper appendix to this case.

To what I have said, it may not be improper to add, that cuprum ammoniacum, prepared with all imaginable care, when exposed for some time in the air, loses its own beautiful deep blue colour, and assumes the appearance of that precipitate which is deposited upon the first addition of volatile alkali to a solution of blue vitriol. Here there is evidently a decomposition, whether from a dissipation of that portion of the volatile alkali which was combined with the metal, or from the attraction of acid from the air, is a matter of little importance to the practitioner. This observation, however, has induced me to lay aside the pilul. cærul. of the last edition of the Edinburgh Pharmacopœia, and to exhibit the cuprum ammoniacum either in a bolus, or rubbed into a powder with a few grains of magnesia, and wrapt in an oiled paper.

VI.

An account of the Effects of the Cuprum Ammoniacum in the Cure of Epilepsy, in a Letter from Mr Thomas Bland, Surgeon at Newark, to Dr Storer of Grantham, communicated to Dr Duncan.

I AM happy in having it in my power to send you the following case, and you are welcome to make what use of it you think proper.

Ann Collinwood, a fine, florid, healthy woman, of twenty-two years of age, being a principal witness against a man for a robbery, was by the magistrates of this place, for want of bail, committed to prison, which had such an effect upon her, as to occasion the return of epileptic fits, which, when a child of seven or eight years old, she had been subject to, but not since, till this period, January 4. 1779, when I first saw her. I had her immediately removed from confinement, placed in humane hands, and had proper nurses provided for her. I presume it will be needless to enumerate every particular symptom ; suffice it to say, that the fits were violent and numerous, not less than twenty in the course of

a day, and so little notice had she of their approach, that (though well attended) she was much bruised by falling, &c.

Having already seen the good effects of zinc in an epileptic patient attended with extraordinary circumstances, I therefore ordered that medicine for her, which she regularly continued about three weeks, from the above date, without any material effect; opium, camphire, bark, and valerian, with other nervous and antispasmodic medicines, were administered, and with no better success. Thus disagreeably circumstanced, I had recourse to the cuprum ammoniacum which you favoured me with, though I must confess with little hopes of advantage, the violence of the fits, the peculiar situation and state of mind of my patient, considered; however I was agreeably disappointed: The first dose was taken about the 20th of January, and from that time the fits became *daily* less and less, till the middle of March following, when she left off her medicine, and was sent to her friends perfectly well.

VII.

Experiments and Observations on the Use of Bell-Metal Mortars in the Shops of Apothecaries.
 By ——— of London, communicated
 to Dr Duncan.

PHYSICIANS have long been acquainted with the poisonous quality of copper ; and have of late years wisely condemned the use of copper vessels in culinary preparations. Is it not then surprising, that although they have so well understood the pernicious effects of this metal, and have provided against it in the department of the cook, they should yet suffer apothecaries shops, and chymical elaboratories, to abound with copper and bell-metal utensils ?

Bell-metal may be properly ranked with copper with respect to its consequences in the body ; for the proportion of this metal in its composition is, I am credibly informed, as two to three. It appears from the following experiments, that bell-metal is soluble in nearly the same *menstrua* with copper. The arguments, therefore, applicable to the danger of the one, must hold good in regard to the other.

N U M B E R I.

Five grains of the raspings of a common bell-metal mortar, made very clean, were put to half an ounce of river water, with half a dram of marine salt. Five grains of the raspings of a halfpenny, made also very clean, were added to the same quantity of the like mixture.

N U M B E R II.

Five grains of the raspings of bell-metal were added to half an ounce of distilled vinegar; five grains of a half-penny were put to an equal quantity of the same fluid.

N U M B E R III.

Five grains of the raspings of the metals were put to half an ounce of common vinegar.

N U M B E R IV.

Five grains of raspings of each metal were put to the following mixture, ox-gall dr. ff. olive oil dr. i. water dr. iij; misc.

The phials containing the above were examined after a few days, and appearances were as follows :

No. 1. Was as blue as the aqua sapphirina of the shops, diluted with about an equal part of water, and the two phials were as equally so as the eye could determine.

No. 2. Was strongly, and about equally tinted between a blue and green, but not so deeply as No. 1.

No. 3. Had a greenish tint; but that with copper was stronger than the one with bell-metal.

No. 4. Were green, but whether from metal or gall, I cannot tell; however, that with copper was much deeper than the one with bell-metal, particularly the supernatant oil.

The danger that may result from the general use of copper vessels, in preparations of the kitchen, is not, in my opinion, comparable to that which is to be dreaded from their use in those of the chemist or apothecary; since, in the first case, excepting salt and vinegar, few articles of a very corroding nature are subject to the treatment of the cook; whereas, to the apothecary belongs the management of materials, of every kind. Besides, a person in health is less liable to feel the effects of what is baneful than a valetudinarian, whose organs are weak, and readily thrown into disorder. The following

following accident gave rise to these reflections.

Some *coralium rubrum* was powdered in a bell-metal mortar, sifted and levigated, after the manner of treating such like articles of the *Materia Medica*. The operator then proceeded to the washing of it, as it is termed, *i. e.* the separation of the fine from the coarse by ablutions with water. In the course of this process, he tasted the coral, to discover its degree of tenuity, and he thought he found a flavour of copper; but the existence of this metal in the mass was presently confirmed to him, by the appearance of some particles of it among the coarse coral remaining in the vessel, which, upon its detachment from the coral, proved to be pretty considerable in quantity.

Left it should be alleged that the mortar wherein the coral was powdered was of a peculiar consistence, it may be proper to remark, that upon the fairest comparison, it appeared to be of the like texture with other bell-metal mortars.

From these circumstances, may we not justly apprehend, that many of the triturated preparations of the shops are impregnated with copper? But we will consider other alarming facts,

facts, that may probably prove this suspicion to be too well founded.

In order to determine whether particles of metal had been rubbed from the mortar in powdering the coral, the following Experiments were instituted.

EXPERIMENT I.

The particles separated from the coral appearing like copper, and weighing about four or five grains, were put to two drams of spirit of sal ammoniac; a high sapphirine colour presently took place, which increased in depth till the particles were entirely dissolved.

EXPERIMENT II.

A few grains of the raspings of the mortar were put to two drams of spirit of sal ammoniac; a sapphirine colour, as in the preceding Experiment, was soon produced.

EXPERIMENT III.

A few grains of verdegris were added to two drams of spirit of sal ammoniac; a fine blue colour was directly obtained, similar to that in the former Experiment.

These Experiments, I think, amount to a sufficient proof of the existence of copper among the coral.

If

If particles as large as grains of sand were deposited with the coarse coral, as was really the case, we may conclude that much smaller ones, not perhaps discoverable by the naked eye, did remain suspended with the fine; for extension of the surfaces of bodies, will enable them to swim in fluids specifically lighter than themselves.

EXPERIMENT IV.

One dram of the finely prepared coral, with two of the spirit of sal ammoniac, presently exhibited a blue appearance; which, though not by much so deep as the solution Experiment I. was yet as high as any aq. sapphirina I ever saw.

These Experiments were so satisfactory to the apothecary under whose inspection they were made, that he immediately ordered iron mortars to be procured, in place of those of bell-metal, now proved to be dangerous.

I took one dram of prepared coral, and it excited a slight degree of nausea. But it must be remembered, that the Physician prescribes for the sick, and not for the hale and strong. And is it not an alarming consideration, that what is intended as a pacific remedy, may perhaps prove an auxiliary to the disease, already
probably

probably hard to be sustained? This, it is to be feared, must be the case, when coral, or other absorbents that have undergone trituration in bell-metal mortars, are given in diarrhœas, or to check violent vomiting. The cuprous impregnation which these powders thus prepared may have acquired, cannot but prove a most dangerous stimulus to the stomach and intestines, in an inflamed, tender, or abraded state.

But if the evil before us be not general, conclusions of a general nature will be absurd; the universality of it then is next to be considered. But no one will deny the universal use of bell-metal mortars. The inquiry therefore rests, Whether the mortars of others are equally susceptible of abrasion with that in the above instance?

I got samples of prepared coral from several of the most eminent apothecaries in London; some afforded a bluish tincture in the volatile alkali, and some a yellow, like a diluted tincture of gamboge. Some crabs claws gave the same kind of yellow tincture, other crabs claws imparted a greenish tincture. Powder of hartshorn, which I procured from different apothecaries, afforded a light blue tincture in spirit of sal ammoniac.

If we admit the inferences from the first and second Experiments, we are naturally led to conclude, that the blue colour in the subsequent ones was derived from copper : What occasioned the yellow tinge from some of the coral, I cannot say ; but this I must observe, that the coral which gave it had not the marks of being genuine. The green in the *chelæ cancrorum*, was but little remote from the blue in the other Experiments.

I have discovered, that the adhering membranes in crabs claws give a yellow tincture.

After what has appeared, it cannot be doubted that bell-metal mortars are liable to be abraded by hard substances powdered in them. If, however, any one should dispute the fact, let him rub some powder of burnt hartshorn, coral, or crabs claws in a bell-metal mortar, and afterwards try it by a proper criterion (the best, I think, is the volatile alkali,) and he must certainly admit the truth of what has been said.

If the above facts, and the inferences from them, should be admitted, the necessity of an immediate regulation in the chests of army and navy-surgeons will appear in a very striking light : For army and navy medicine-chests
are

are constantly supplied with bell-metal mortars, and no other of metal.

But it is highly probable, that what I have advanced may be ridiculed by many, as containing only what is common and generally understood. The importance of the observations which have been made, none surely will deny : Their being well known, then, implies a shameful supineness in those whose business it is to enquire into these matters, since the evil is not corrected.

To determine whether a blue colour would succeed, on digesting the unpulverized ingredients in the volatile alkali, I put some coral, crabs claws, &c. broken in pieces, into spirit of sal ammoniac, and, after suffering them to digest many days, I examined the spirit, and found it limpid and colourless, excepting a yellowish cast in that with the crabs claws, which was undoubtedly from the adherent membrane, as already hinted.

It is difficult to discover copper, though it should exist, in many drugs, on account of the colour they themselves impart to *menstrua*, by which the test is obscured ; but analogical reasoning teaches us, that all hard substances are liable, through attrition, to abrade bell-metal ;

metal ; whereby they will become loaded with metallic particles. Admit, however, the *possibility* of this effect taking place, is it not a distressing reflection, that we may *possibly* be giving poison, while we rest secure in the administration of medicines in themselves harmless ?

I have hitherto considered bell-metal mortars as subject to *abrasion* only ; but they may impart a poisonous quality to medicines on the principle of *corrosion* ; thus, for instance, if you rub powder of burnt hartshorn ever so little, or indeed let it lie some time in a bell-metal mortar, an obvious blackness will succeed, especially if it be moistened with any liquor.

It is possible that the ecphractic, the soap-pills, or any alkaline or acid preparation, may be beat up in bell-metal mortars, as these only are in general use, and at hand on all occasions. I will not here make a comment : Let candour acknowledge, let humanity express what must be the consequence of such procedure. Suffer not, then, such dangerous instruments to be seen in shops that should be the repositories of friendly medicines, prepared with conscientious care.

I shall mention, with deference, a suggestion that arose on considering the effects of some preparations of copper, and on reflecting that crabs claws have been esteemed diuretic. I think then, that the testaceous powders have had a property assigned to them, which, if they possess at all, they derive from the mortars in which they are powdered.

It is notorious, that cuprous preparations, in proper doses, promote the urinary secretion, and hence a famous receipt of *Boerhaave* ; but I fancy it will be difficult to ascertain any remarkable virtue of this kind in crabs claws. Their alkalescency will hardly be thought sufficient to account for any such property, since chalk is endowed with a much greater share of this quality, yet is not reputed diuretic.

Having then, upon facts, exploded brass and bell-metal, it will be required, What other kind of mortars will answer the purposes of apothecaries and chemists ? The reply is ready ; IRON. The experience of several gentlemen has proved, that mortars of this metal answer perfectly well. It may be objected, that iron is apt to contract rust. But let me observe, that an attention to the foulness of bell-metal and brass, is much more necessary than to that

of iron, as a neglect in the one case would be excessively dangerous, in the other hardly more than an inelegant omission. But cast iron is really less susceptible of the impressions of the air than bell-metal. Indeed, in all respects, it has the advantage over it, and is beyond comparison cheaper.

Iron then, a perfectly innocent metal, must be the substitute to one of allowed virulence. And what solid objection can prevent the regulation from immediately taking place? The uneasiness that ever attends an uncertain practice, must be a powerful incentive to apothecaries to adopt it. The satisfaction that must accrue from being assuredly on the safe side, would, of itself, to feeling minds, be a sufficient reward; and the society of apothecaries have, I doubt not, too much honour and honesty, to wish to continue a practice stamped with uncertainty and danger.

VIII.

A successful Method of Cure proposed by Mr Daniel Orred, Surgeon in Chester, in Diseases of the Larger Joints, which have hitherto been thought to require Amputation: Communicated to Dr Duncan by Dr Percival of Manchester.

THERE are few practitioners in surgery, I presume, who have not perused Mr Pott's very sensible little Tract, on the propriety and necessity of amputation in certain circumstances, and will not acknowledge, with him, that diseased joints, from scrophulous and other causes, are generally incurable. But in this paper I hope to evince, that some very bad cases of this sort are remediable by human art, even when they have been of long continuance; and that their cure may be accomplished by producing an absorption of the stagnant and superabundant synovia, and by drying the enlarged ends of the bones, before the ligaments and cartilages have been too much injured. It is obvious, however, that these means will be most effectual in the earlier stages of the disease; for though children are sometimes cured by the sole efforts of

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nature,

nature, even after the commencement of suppuration, yet when this occurs in adults, as it sometimes does very rapidly, the loss of the limb must be deemed unavoidable. Bilguer, and some later writers, have asserted, that transverse openings may, with safety, be made into the cavities of the larger joints, when diseased or injured ; and that the limb will thus be preserved. What surgeon has not experienced the deplorable and truly dreadful symptoms which suddenly arise from the slightest penetrating wounds of joints ! Several melancholy instances have occurred, within my own knowledge, of the fatal termination of such transverse incisions, in patients who would not submit to amputation. One of these lived near two months after the joint of the knee had been laid open, and then died tabid. The wound was almost healed, but the foot and leg remained bloated and leucophlegmatic.

The utility of blisters, in enlargements and white swellings of the joints, is known to every one ; but the subsequent mode of applying them, and the observations resulting from the practice here described, will, I trust, be deemed original.

In the spring of the year 1775, I was desired to visit Miss Lightfoot of Hoole, two miles from Chester. I found that she had suffered excruciating pain during several weeks, from a white swelling in the knee. She was 24 years of age; of a thin habit of body; and had been afflicted with her complaint more than 20 years. On a careful examination, I found the joint of a monstrous size, hard, and knotty to the touch, and with the natural inequalities quite obliterated. The skin was glossy and smooth; and of a pale yellowish hue; the leg and thigh were much wasted. From the very great internal pain, I suspected the joint would soon corrupt, and therefore advised the application of a blister, without delay, round the whole tumor. I explained my intended mode of treatment, and honestly declared that it was a new experiment. Great objections were made to it by the family, notwithstanding their conviction that the patient's life could be saved only by amputation, or by the means which I proposed. My directions were at last reluctantly complied with, and by repeated persuasions were followed during three succeeding months. The part was every day dressed with a diges-

tive ointment made strong with the powder of cantharides, and a large quantity of well concocted pus, at the same time, cleared away. Much pain and torment were the consequences of this course, although she took, every night, an opiate, the dose of which was gradually increased. Gentle evacuants were also administered at proper intervals. About two months after the first application of the blisters, the knee fell suddenly out of joint, on raising the leg, which was at that time bent, and resting upon its outside. And I could with facility, and without giving much pain to the patient, dislocate it either outwardly or inwardly. The joint seemed then to the touch soft and pappy. I again placed the leg on its outside in a bent position, and continued the vesicatories a month longer. At the expiration of this term, the blister was removed; and when the inflammation was a little subsided, a tight bandage was applied to secure the joint in a proper position. By degrees, the parts hardened, and in a few months, she was restored in some measure to the use of her leg. She wore a tight bandage near two years, which rendered the joint quite stiff. But afterwards, it was slackened

a little; and on inspecting the knee lately, I find it is not devoid of motion and flexibility. It is smaller than the other, but without any deformity.

I flatter myself that the happy termination of this case will point out in similar ones a new method of cure. By the like mode of treatment, seldom however continued so long, and by the use of proper internal remedies, I have removed a variety of swellings in different joints, proceeding from scrophula, rheumatism, and other causes.

In those white swellings which have been cured without the intervention of art, I have always found the affected joints not only stiff and immoveable, but also very crooked: From which it should seem, that a large extent of connecting ligaments must have been corroded and destroyed. And when the knee has been the part affected, the patient has walked in a very imperfect, tottering manner. So that the mode of treatment above described, has advantages in point of safety, symmetry, and mobility, even over the spontaneous efforts of nature, when those efforts terminate favourably for the patient. I hope it will not be improper just to mention here, that

the case of the poor man, which I had the honour to lay before the Royal Society, and which is published in the 69th volume of the Philosophical Transactions, turns out more fortunately than is represented in that account. The ossification is become more complete, and the use of his arm much more perfect than it was at the time when I wrote the paper now referred to. Permit me to relate another case exactly similar, which has since occurred in my practice. In September 1779, I was called to Guilden Sutton, a village three miles from Chester, to visit one Armine Jones, a strong healthy woman, about 25 years of age. By a fall from a horse, upon the point of her shoulder, she had so violently bruised and injured the joint, that suppuration had taken place two or three months before I was consulted. I found the capsular ligament largely corroded, the joint very foul, and the ends of the bones bare, and in several places divested of cartilage. The successful cure of the former case induced her to consent to undergo the same operation. And the event of it in this instance was much more fortunate than in the other; the subject being healthier, and a larger portion of the humerus

merus preserved, as the head of it alone was sawn off. For I believe it will always be found, that the loss of substance at the end of a bone, will be supplied by a very imperfect ossification.

Dr Percival makes the following Remarks on the first of these Cases, in his Letter to Dr Duncan.

IN the ingenious paper, which I now transmit, you will find, that Mr Orred has extended the use of blisters much farther than any other practitioner in those strumous swellings of the joints, which are so painful in their progress, and so fatal in their termination. But I fear few patients will be found of sufficient fortitude and perseverance to submit, for so long a time, to the treatment which he recommends, though, in such long continued and inveterate cases, I am afraid quite necessary. I hope, therefore, he will exert his skill and attention in devising some mode of alleviating the pain, which the successive application of so many vesicatories to the same part, appear, from his own recital, to produce. The stimulus of caustics has been abated by the combination of opium with them, without any material

material diminution of their activity : And it is not improbable, that the painful irritation of blisters may be mitigated by the same means. The interposition of a soft muslin rag between a vesicatory and the skin, almost always prevents the stranguary, and renders its operation in every respect easier, though possibly more protracted. Might not slight electrical shocks, passed through the affected joint, be good auxiliaries in those white swellings of which Mr Orred has treated ? I have seen admirable effects from them in various glandular tumours. Nor do we know any more powerful means of removing obstructions, or promoting the absorption of stagnant juices.

IX.

History of a Case of Hydrocephalus, with an Account of the Appearances on Dissection. By Robert Willan, M. D. Communicated to Dr Duncan.

J. B. of the Water of Leith, had, soon after birth, a visible enlargement of his head ; the futures of the cranium separating very widely, till the fluctuation of a fluid within might

might be perceived distinctly by applying the fingers. The disorder increasing gradually, his head became at length of such an enormous size, as to be out of all proportion to the rest of his body, which was indeed remarkably small for his age, and unable to support the unwieldy burden. It was therefore necessary to keep him always in a horizontal position, or carefully support his head when any nourishment was given. Notwithstanding this, he seemed still to retain perfect sense, and was affected by objects much in the same manner as other children of equal age, but never uttered any articulate words. Many Physicians and Surgeons had been consulted, who all agreed in dissuading his parents from any hopes of a cure.

About 15 weeks before his death, when I first saw him, he was seized with convulsive catchings in his limbs, which were removed in a few days. It seemed too late for a trial of mercurial unction, nor would his parents do more than keep him as easy as possible, and free from irritations. He took little sustenance after this; and died, much emaciated, Feb. 17th, aged 20 months, without any particular

ticular symptom, only he appeared to have lost all sense some days before.

DISSECTION.

On removing the teguments, and making a perforation, betwixt three and four English quarts of thin limpid fluid were discharged.

This had been confined within the lateral ventricles, which were amazingly distended on every side; and had so compressed the substance of the brain, that it might be compared to a bladder, being thin, with its convolutions almost straightened. The lining of the ventricles within seemed thick, and somewhat hard, the vessels spread all over it very much enlarged.

The foramen, by which the ventricles communicate, was dilated, so as to admit, with ease, the thumb, and had a hard annular rim around it.

The plexus choroides was very dull and shrivelled: The corpora striata greatly flattened and extenuated: The thalami nervorum opticom, were much in the same state, but still more indistinct: The cerebellum, medulla oblongata, &c. appeared perfectly natural.

His

His head measured in circumference $2\frac{1}{2}$ feet, which equalled the length of the whole body within a very few inches.

Sufficient time was not allowed to make further or more accurate examination.

One thing was remarkable, that his eyes were always lively and very sensible, the pupils readily contracting and dilating according to different degrees of light. The explanation may be perhaps not difficult.

As the disease began so early, the bones of the cranium, being yet tender, gave way to the effused fluid, whence little pressure would fall, in the other direction, upon the origin of the optic nerves.

X.

The History of an obstinate Case of Epilepsy, successfully treated by Blood-letting: Communicated to Dr Duncan by Dr Robert Hamilton of the 10th Regiment of Foot.

A Labouring man on the banks of the river Bush, in the north of Ireland, having been long afflicted with the epilepsy; after many a long and violent struggle, at length
fell

fell a sacrifice to the superior strength of the foe.

His son, a boy of about 12 years of age, healthy and strong of his years, as any in the neighbourhood where he lived, and who never had before that the least symptoms of such an affection, fell into fits. The disease daily gathered strength, and in a short time he became a most miserable object. From a fair ruddy, and healthful complexion, he now wore a most ghastly look, frightful and wild, and became a mere skeleton.

Thus his disease continued for some years, still gathering strength. Sometimes, for a whole day together, he could not be said to be out of the fit; for as soon as he would open his eyes to the light, he would fall immediately into another.

His case now became desperate; and his friends, as well as the sympathizing neighbourhood, wished only for death to relieve him from his distress, as they thought him out of the reach of medical aid. One day as he lay senseless, and convulsed, in which condition he had continued from morning till evening, while a commiserating crowd were gathered around, wishing for his end, it suggested

gested itself to one of the multitude, that perhaps bleeding might be of some use; that however improbable the success might appear, yet it was a duty to attempt something for his relief.

Bleeding is, among the common people, a cure for every thing; and what at this time probably gave him the idea, was the school-master of the parish then joining the crowd.

The school-master generally lets blood, as one part of his parochial duty. As the patient was given over long since for lost, the proposed remedy met with little opposition from his friends, having as little hopes of its success. Accordingly his arm was tied up, as he lay on the ground, and blood let from a large orifice, (not being over nice in the operation), and the blood was allowed to flow on the ground. Scarcely was this performed, when the boy began to look up, and recover from the fit. Though it was only looked on as a protraction, not as a cure of the complaint, yet his arm was taken care of and bandaged. However, to their great joy, and contrary to their expectation, he recovered perfectly, and has never since had another fit, though it is now above a year. In the space of a few days his
looks

looks altered, and he soon became as fat and fair as ever he was in his life.

This relation I had first from the minister of the parish, a very worthy man, who was perfectly acquainted with every thing relating to the case, and whose veracity is unquestionable; and again from the school-master who bled him.

What I wished most to ascertain, was the quantity of blood lost. This I was not able satisfactorily to learn, as it was suffered to flow on the ground; but according to the several questions I put to him, in order to have some idea of it, I think it could not be less than between two and three pounds.

As this is a disease that very frequently happens, and as yet has kept beyond the reach of physic in most instances, when it has once been confirmed into a habit in the constitution, every thing which has succeeded as a cure in any case, whether by accident, as the present, or otherwise, should be faithfully communicated to the public. It is but giving the patient a fair trial for his life, when one remedy fails, to have recourse to another, till we have gone through every one which seems to have any probability of success, or has ever,
in

in any instance, succeeded. Neither blisters, issues, setons, the actual cautery, powder of orange-leaves, the present much boasted flowers of zinc, and all the other class of antispasmodics in daily use, will in every case answer; yet no one of them is to be overlooked as useless. And from the present case, which is faithfully related, we ought to turn our attention to large bleedings, especially in some habits; and perhaps it may be found to succeed in more cases than at first view we might be led to suspect: Its great antispasmodic powers are known, and daily acknowledged by all the faculty.

Blood-letting seems the more to be depended on, from another case told me by a gentleman, a student of medicine, to whom I had related the present. He had read, but did not then recollect where, of a case somewhat similar: It was of an epileptic patient falling down in a fit, and accidentally having his temporal artery opened by some sharp substance on which he fell; it bled profusely before it could be stopped, and the patient was radically cured by the hæmorrhagy.

XI.

History of the Cure of a dangerous Obstruction in the Trachea, in which Mr Mudge's Inhaler was used with Advantage. By Mr John Sherwin, Enfield, Middlesex.

ON the 16th of May last, I was called to the assistance of a young woman about twenty-five years of age, of a remarkably florid countenance and healthful appearance, who had complained pretty much, for upwards of a week, of a difficulty of breathing, which had been getting gradually worse, and was then exceedingly troublesome. Her spirits, however, were very good ; and, notwithstanding a loss of appetite, and some pains in her limbs, she did not appear to be otherwise much disordered. But the manner in which she drew her breath, was sufficient to make me consider her case as a serious one. I could distinctly hear something move backwards and forwards in the windpipe every time she respired. The noise which it made was such as may be conceived by supposing a small leaf of a tree to have been moved backwards and forwards in the passage, which was at the same time attended with considerable wheezing.

ing. This last, however, did not give her much concern, as she said she had been troubled with wheezing at times upwards of twelve months, and to such a degree that she was often told she was broken-winded. She had had the whooping cough in her infancy, and had been all her life, as far back as she could recollect, subject to a huskiness in her throat, which had been attributed to that disorder.

I informed her friends, that though she was then able to stir about very cheerfully, I was apprehensive there was some fixed obstruction in her windpipe, from which she would be in danger of sudden suffocation.

I bled her largely in the arm, which brought on a long, and, in her situation, rather an alarming fainting. Some opening medicines, and an expectorating mixture, were prescribed.

May 17. The bleeding and other remedies had not contributed to the patient's relief. Her breath was more obstructed, and the noise increased.

R̄. Tart. emetic. gr. iv.

Pulver. ipecac. dr. ss.

Oxymel. scillitic. unc. i.

Acet. vin. alb. unc. iii. M. Capiat cochl.
commune bis die ciere vomitiones.

The first dose was taken this day in the forenoon, and seemed to give great relief, as she breathed great part of the day afterwards without the usual noise in the trachea; and was able to lie down in bed some hours, during which she enjoyed the most refreshing sleep that she had known for many days. But in the evening she awoke with her usual difficult manner of breathing; and, as night approached, became gradually much worse. This induced her to take a second dose of the emetic mixture agreeable to the prescription. During its operation she was in great agitation and anxiety; the attendants heard something crack in her throat, and she was herself sensible of a bad taste and smell. The danger of suffocation became now infinitely greater than it had ever been, and I was sent for in the utmost hurry. Near an hour being necessarily lost before I could get to her assistance, I expected to have found her dead; but she was still struggling in great agony. My first object was to throw open the window, and place her with her head out of it; but she was unable to remain many seconds in any one posture; excepting now and then, when she flung herself back like a dead weight in-

to a chair, where she would continue two or three minutes so still and quiet, that it was not easy to know that she breathed at all, but by the motion of the chest. From this situation, in an instant she was often obliged to jump up and move quickly several times round the room, inspiring with the utmost difficulty, with a noise not unlike the imperfect crowing of a young cock. And frequently she made a very violent effort to hawk up something which all the bystanders, were sensible, from their own sympathy, obstructed her windpipe. Sometimes for two or three minutes, her breathing was attended with a rattling so loud and extraordinary, that it brought several people into the street. In this situation I expected every moment would be her last, and that she had no chance but in bronchotomy. Upon proposing this operation, she answered with great earnestness, she would die first, she would never consent to be cut.

Near half an hour had now elapsed, without any other mode of relief occurring to me, as indeed I fully expected that death would finish the scene long before a messenger could go to my house and return. And, from the effect of bleeding the day before, I was unwilling to have recourse to it a second time.

Upon her continuing to hold out, contrary to my expectation, I sent a messenger for a large blister to be applied to the throat ; and soon after, it occurred to me, that Mr Mudge's inhaler might be of service, and a second messenger was dispatched for it ; on whose return, it was immediately tried three parts full of warm water. The first effect of this instrument was highly flattering. Almost at the moment of suffocation, she made four full and free inspirations, and as many expirations through it. But presently the suffocating obstruction returned ; and again her mouth was applied to the machine, but not always with the same advantage as at first ; it was always, however, of use, and frequently for a moment rendered respiration quite free, so as to admit of a full inspiration without the noise.

In this laborious and truly distressing situation, she continued upwards of four hours ; sometimes struggling most violently for breath, and at other times blessed with a momentary respite. At midnight she became more quiet, and by degrees, upon being put to bed, began to breathe so freely that

that I ventured to leave her. Still, however, I thought it proper to make a very guarded prognostic, as there had been no material discharge that could account for the cessation of the symptoms. It appeared to me, that the obstructing substance had accidentally taken a different situation. But my patient, whose judgment, on account of her exquisite feelings, ought not to be disregarded, attributed her ease in a great measure to the use of the inhaler.

18. I found she had passed the remainder of last night with some sleep, and much more comfort than could have been expected. All this day, she was able to stir about till evening, when she had again some violent efforts to expectorate, and once thought she swallowed something which came from her wind-pipe; but of this she could not be certain, being only sensible of a disagreeable taste.

From this time she got gradually better. On the 25th, I called upon her, and found her wheezing in such a manner as in any other patient would have been considered as a very troublesome disorder, but which she thought little of. She said, she could still feel something like rags in her throat.

During the whole of my attendance on this patient, I was never able to discover any appearance of swelling or inflammation in the tonsils, though doubtless the disorder in the trachea must have originated from inflammation. When I consider the gradual manner in which this disorder came on, and the great length of time that the patient was predisposed to it, I cannot regard it as a genuine case of cynanche trachealis or croup, a disorder so very fatal to infants. But the sense of suffocation which she experienced, was exactly the same as that in the croup, where a preternatural membrane is formed in the trachea.

From the effect of Mr Mudge's inhaler, in the above case, I am persuaded it will be a very valuable acquisition to the Faculty, especially in the cure of the cynanche trachealis. Suffocation comes on, in this disorder, before the cavity of the trachea can be said to be *filled* with an extraneous substance, and seems evidently owing to a *spasmodic* constriction of the rima glottidis; and as far as the suffocation depends upon spasm, one may have the best reasons for expecting that this machine will give relief.

I very well remember a case of the croup, some years ago, which proved fatal in a few
hours,

hours, to a fine child, who, at first, was not supposed to be in much danger. From the nature of his symptoms, and the appearances of the trachea upon dissection, I am persuaded he would have had a much better chance for his life, had the knowledge of this machine been then communicated to the world.

The following is the case, with the morbid appearances upon dissection, as communicated at the time, to one of the first medical characters in London.

“ On Sunday noon, I was sent for, and found the child’s breath much affected, seemingly as if the rima glottidis had been spasmodically constricted, or half filled with some foreign substance. It did not seem able to inflate the lungs fully. The voice had a peculiar dry sound; and the pulse was greatly accelerated, which did not seem owing to fever, as the tongue was clean, and the appetite for food not much impaired. The child had, for three or four days previous to this, a hoarseness, and symptoms of having caught cold, which did not at all alarm the nurse. But now the breathing was so remarkably affected, that there appeared to be some danger. When I called in the evening, I found
the

the breath considerably worse ; every inspiration exactly resembling that which succeeds a fit of the whooping cough. In this situation the child continued about twelve hours, and then died.

“ Upon dissection, I found the cavity immediately beneath the epiglottis nearly filled with a slimy pus ; and the internal surface of the trachea and cartilages was almost uniformly covered with matter about the thickness of a half crown piece. Upon scraping off this matter, its consistence was such, that I could take up pieces as large as a small filbert upon the point of a pin. The inferior surface of the epiglottis was curiously covered over with the same. The tonsils were a little enlarged, and there was a small flough upon each, which was easily removed, notwithstanding it appeared in places to penetrate into the glands, the surface of which, upon removing the flough, was full of little holes, and irregular enlargements (I suppose) of the natural mucous ducts. From the floughs, one would suppose that the child had also the ulcerated fore throat, which is now so frequent in this neighbourhood ; but as he never complained of difficulty in swallowing, nor had any rush, febrile

febrile heat or anxiety, till symptoms threatening suffocation came on, that could not be the case. Indeed, there is such an essential difference in the symptoms, that the common people almost immediately distinguish the one from the other. It appears to me to be merely a topical inflammatory affection of the internal surface of the windpipe, probably often occasioned by the application of cold air. The mucus deposited here, seems to occasion the spasmodic constriction, which, as far as I can find, has been the fatal symptom in all that have died in this place. I attended two other children, who both recovered, but for several days they had a rattling in the throat (one of them in particular), as strong as that of a dying adult. Small doses of tartar emetic, sufficient to excite retching, with a blister applied lengthways, the whole extent of the throat, seemed greatly instrumental to the recovery of these two children."

Dr Crawford, in his valuable Thesis de Cyananche Stridula, printed at Edinburgh in the year 1771, says, "*Cum suffocatio ob spasmodum imminet, tum ex antispasmodicis auxilium petere fas sit; cum paroxysmus talis inopinato ingruat, et nec dolor, nec febris, nec*
" alia

“ alia morbi symptomata præivere, ad hoc
 “ consilium, moschum magnis in dosibus ex-
 “ tulit Dr Millar.” This, in Dr Millar’s
 opinion, “ proved anodyne and diaphore-
 “ tic; the *spasms* were allayed; a gentle
 “ moisture was diffused over the whole body.”

He found, however, that the musk was not
 always successful, and had recourse to large
 doses of a solution of assafoetida, which Dr
 Millar observes, children may be prevailed on
 to take much more freely than might reason-
 ably be expected. “ Sed, cum vir ille cy-
 “ nanchen stridulam omnino quasi generis
 “ nervosi affectionem ducat, et cum tam cito
 “ decurrat morbus, vix nobis saltem patet,
 “ quare non statim ad opium confugiebat, qua
 “ maxime confidunt medici, summa cogni-
 “ tione præditi, in *spasms* domandis.”

I am persuaded, that Mr Mudge’s inhaler
 will more immediately answer the desirable
 intention of *allaying* the *spasms*, and *diffusing* a
gentle moisture over the whole body; especial-
 ly, perhaps, if the antispasmodic property of
 the warm vapour should be improved by the
 addition of a moderate quantity of the tinctura
 thebaica, or of a watery solution of opium.
 It is a remedy which may be immediately ap-
 plied,

plied, and, as the disorder is inflammatory, may possibly be used with safety, when opiates given into the stomach might be prejudicial.

The use of this machine, in the inflammation of the trachea, ought always to be superintended by one of the Faculty, or particular directions given, as the nurses are very apt to begin with it much too hot, in which case it stimulates and does harm.

XII.

A remarkable Case of Epilepsy and Dysphagia Spasmodica, cured by the Use of Cuprum Ammoniacum. By Dr John Heysham, Physician, Carlisle.

JANE STOCKBRIDGE became a patient of mine on the 9th of January 1780. She is an unmarried country woman, in the forty-second year of her age, of middle stature, and of a lax habit of body. About twelve years ago, either from trouble, or a fright, as she imagines, she was seized with fits; which, during the space of a quarter of a year, returned once in twenty-four hours, and generally in the night. They afterwards became more frequent,

frequent, especially in the summer months, when she was deprived of her memory, and indeed of almost all her mental faculties. Within these two years, they have only returned about twice or thrice a-week. In these fits, she becomes insensible, her legs, her arms, and many of the muscles of the trunk of her body, are so violently convulsed, that three men are scarce sufficient to hold her; she foams at the mouth, and in this state she often continues near an hour; then gradually recovers, but is utterly ignorant of what has passed. About seven years ago, without any evident cause, she was affected with a new and peculiar disorder, *viz.* a difficulty of swallowing, with a sensation of stricture and tightness in her throat and breast; and was unable to swallow either solids or fluids for the space of seventeen days. During this time, she had no epileptic fits, was entirely supported by nourishing glysters, and had neither any evacuation by urine or stool, but had a small discharge of blood from her ears. Some remedies were added to the glysters, which, however, were attended with no sensible effects.

On the 17th day, a probang was introduced into her stomach; on the immediate removal
of

of which, she fainted near a quarter of an hour, then recovered, was able to swallow both solids and fluids with ease, had a stool, and made near a gill of urine of a gelatinous consistence. This difficulty of swallowing, or dysphagia spasmodica, continued to return regularly every month for two years, and was constantly removed in the same manner, by the introduction of the probang, with this difference only, that in the second year, upon withdrawing the instrument, instead of fainting, she was seized with strong convulsions. During the third year she was perfectly free from the dysphagia. But the fourth year, it again returned without any evident cause, and she had four or five paroxysms. The paroxysms became more frequent in the fifth year, *viz.* about once a month, and have continued without much variation till the present time.

On the morning of the 7th of January 1786, she was again affected with the dysphagia; and on the 8th, I was present, when Mr James, a surgeon in this town, with some difficulty, on account of the stricture in the gullet, introduced the probang into her stomach; and on its being withdrawn, a scene truly melancholy and alarming presented itself to
our

our view. She was seized with most violent convulsions ; her head was bent forcibly backwards, so as to touch her back ; and it was as much as three strong assistants could do, to prevent her from beating herself to pieces. These convulsions continued half an hour, when she was able to swallow a little æther and water, but remained two or three hours in a disagreeable situation, which, however, she is unable to describe. Since the first attack of the dysphagia, she has sometimes deferred the use of the probang for the space of six days, during which time she never has any evacuation by stool or urine, but immediately after the operation has frequently observed her urine to be gelatinous. When free from the dysphagia, she is constantly affected with the epilepsy, so that she has now laboured under the former, seven years, under the latter twelve years. When free from fits, her appetite is good, belly natural ; menses have always been, and continue to be regular, and in all other respects is in tolerable health, and able to perform her ordinary business. She is sensible of the approach of the epileptic fits, but the dysphagia comes on suddenly ; and during its continuance, she complains of
little

little or no pain, but has a sensation of stricture and tightness in her throat. She has taken a variety of medicines, but has reaped no advantage from any thing but æther, the good effects of which were very slight and transitory. In this truly distressful case, taking into consideration the ascribed cause of her disorder, the relief she had received from æther, her lax habit of body, and especially the absence of all symptoms which indicated any local affection of her head or brain, I apprehend, a great degree of irritability, depending on a laxity of the nervous system, might, in a great measure, be the cause of all her complaints. Well acquainted with the strengthening and tonic properties of copper, I was resolved to give it a fair trial, and am happy to find by the event, that it has answered my most sanguine expectations. January the 9th, I accordingly prescribed the following pills, *R. Cupri ammon. gr. xxxii. micæ panis, dr. ii. ff. Syrup. simp. q. s. fiat massa, in pilulas 64 æquales dividenda.* She was ordered to take one of these pills every morning and night, and to increase the dose according to circumstances. January 26th, soon after she takes the pills, they have a very peculiar

effect upon her, which she is unable to describe ; she, however, continued them for five days, when she omitted them for seven days. She then began again, and took one, night and morning, with nearly the same effects. The epileptic fits returned every day for 10 days ; since that time, she has only had a fit once in three or four days. Let her take three pills every day, and, if she is able, increase the dose to four. February 10, Has taken all the pills, and has had but two fits since last report. Let her have double the quantity of pills, and let her increase the dose, according to the effects they produce. February 28th, Began with four pills each day, which produce nearly the same effects as two did when she first took them. She has now increased the dose to seven or eight every day, without any sensible effect. Continues free from fits. Let her have some more pills. March 16th, Has continued to take eight or nine pills every day. They produce no sensible effects. Has had no fit. Let her have more pills. April 1st, Has taken all the pills, and increased the dose to eleven in the day. Continues free from fits, and thinks herself perfectly well.

June 17th. Has continued perfectly well since the 3d of this month, at which time she
was

was seized with a violent looseness, which lasted ten days, and then ceased without the use of remedies. On the seventh, or four days after she had been affected with the looseness, she was again seized with the epileptic fits, and has had one or two every day since. They continue about one hour, during which she is insensible and much convulsed. Has had no return of the dysphagia; but since the looseness, has been frequently affected with hiccup and symptoms threatening suffocation, which however go off as soon as she gets a free discharge of wind upwards. Appetite pretty good, sleeps tolerably, has no thirst, and her belly and menses are regular. Let the pills of cuprum ammoniacum be repeated; let her begin with one morning and night, and increase the dose as before directed.

July 5. On the 18th of June, began to take the pills, and took one night and morning as ordered. They now produce symptoms very different from what they did before. About a quarter of an hour after she has taken them, she becomes giddy, light-headed, and in every respect seems to be in a state of intoxication. These symptoms conti-

nue about an hour, when she is affected with nausea and sickness at stomach, but never vomits; afterwards, she breaks out into a sweat, in which she continues near an hour, and then becomes perfectly well. Since the 22d of June, has been entirely free from fits, hiccup, and all other symptoms which usually threaten or precede them. Her menses did not appear the last period. Her appetite is good and her belly regular. Let her take a pill and an half every morning and night.

Tuesday, July 25. Has continued the pills; but, from some mistake in the directions, has only taken one pill and a half in the day, instead of three; this quantity, however, produces the usual effects. She has been in good health, and free from all her complaints, till two o'clock on Sunday morning, viz. 23d, when she was seized with the dysphagia, and has not been since able to swallow the least particle of either solid or fluid food. In other respects she is in good health, and complains of a sensation both of hunger and thirst, and has had no evacuation either by stool or urine since she was affected with the spasm. On Friday, July 21. she very imprudently assisted in removing some hay from the banks of the
river

river Esk, which were overflowed; in this business she was obliged to wade up to the knees in water for a considerable length of time, during a very heavy and incessant rain. To this circumstance, fatigue, &c. she attributes, I think, with reason, the present attack.

Wednesday 26th. About 11 o'clock A. M. the probang was introduced; and, as soon as it was withdrawn, she swallowed without any difficulty a little æther and water. No convulsions or alarming symptoms occurred, as had been usually the case before; she was only affected with some trifling spasmodic contractions of the stomach and gullet, attended with no pain, but with a peculiar kind of noise, and eructation of wind; all which however soon went off, and she became perfectly well. Her menses appeared almost immediately after the operation. Let her continue one pill and a half night and morning for a few days, and then increase the dose to two pills twice a-day.—August 12th. Has been free from fits, and has had no return of the dysphagia, and in every respect is in very good health. She has taken four pills a-day since the 30th of last month. They still continue to produce symptoms resembling intoxication.

cation. Repeat them, and let her take two night and morning.—September 7th. Has finished her pills some time ago, and remains free from fits, but has complained of great pain in her head for some days; belly costive. Let her head be shaved, and apply a large blistering plaster to it. *Rx.* Mass. pil. ruf. dr. ii. assafoet. dr. i. syrup. rhei. q. s. M. fiat massa dividenda in pilulas 40 æquales. She was ordered to take two or three of these pills every night at bed-time. Let the copper pills be omitted.—October 4th. The blister was applied as directed; it remained on the head 48 hours, discharged a considerable quantity of lymph, which removed the complaint of her head. She has likewise taken all the laxative pills; they procured a stool or two every day. While she was taking them, she sweated profusely, and what is somewhat remarkable, the sweat tinged her linen of a yellow colour. Has had no return of the epilepsy since the 22d of June, nor of the dysphagia since the 26th of July. At present is free from all complaints. Let her have a box of the copper pills, and be dismissed, with orders to return should any change occur in her situation.—October 28. Having business
in

in town, she called to acquaint me that she has had no return of her fits, although she had not got the last box of pills, owing to a want of cuprum ammoniacum. On Monday last in the night she had a discharge of blood from both her ears, which was preceded by some little pain in her head, which is now gone off. Has had no appearance of menses since the 26th of July. Sumat pulv. cort. Peruv. dr. ff. bis quotidie.

Dr Heysham, in a letter to Dr Duncan in January 1781, informs him, that this patient then continued in perfect health, without any return either of the dysphagia or epilepsy.

XIII.

A Case of Epilepsy cured by Cuprum Ammoniacum, communicated to Dr Duncan by Dr John Heysham, Physician, Carlisle.

AUGUST 21. 1779. John Ridley, a labourer, aged 27 years, of a florid complexion and stout habit of body, was about 10 years ago affected with a fit, which began with a

sense of numbness in his right hand. This numbness immediately proceeded up the arm to his head, when he fell down, foamed at the mouth, and was affected with strong convulsive motions of his legs, arms and trunk of his body. In this situation he continued near half an hour. He then recovered, but had no recollection of what had happened. Three years elapsed before he had another fit; and for several years after, he had seldom more than one each year. About six months ago they became more frequent, but observed no regular period; sometimes they returned every day for a week together, at other times every third or fourth day. On his applying to Mr Hodgson, surgeon in this town, he immediately began to take the cuprum ammoniacum. He was ordered one pill night and morning, which created a little degree of nausea, but no vomiting; the dose was afterwards increased to three pills every day. Before he had taken 48 pills, he was perfectly free from fits, and has continued so till the present time, *viz.* 17th January 1781.

XIV.

The History of a singular Case of Delirium from an Wound of the Head. By Mr George Borthwick, Surgeon of the 14th Regiment of Light Dragoons.

A Corporal of this regiment got into a riot about two miles from the barracks, and was knocked down by a pitch-fork. The blow which he received occasioned a lacerated wound, which extended about two inches on the integuments covering the superior and middle part of the left parietal bone. The man, I believe, lost near two quarts of blood from the wound before I saw him, which was not till he returned home two hours after the accident. On examining the wound, I found it filled with coagulated blood, which I removed with my finger. Upon this, the hæmorrhage, which had not entirely ceased, became again very violent. The pericranium adhered firmly to the bone ; and, on examining with the probe, there was no inequality or mark of fracture to be discovered. His pulse was small and unequal, his extremities were

were remarkably cold, and a delirium was coming on.

As I considered his symptoms to be owing to the great loss of blood he sustained, rather than to any extravasation within the skull, I dressed the wound with charpie, and ordered him some nourishing broth ; but I soon found, that the application of the charpie was unable to restrain the hæmorrhage. I therefore removed the dressings, and enlarged the wound with a scalpel. My reason for doing so was, that the half divided vessels, from which the blood oozed profusely, both of the pericranium and teguments, might, from a free division, be allowed to retract and put an end to the hæmorrhage ; and likewise to obtain the advantage of a division of parts inflamed and in a state of tension. On the dilatation being made, the hæmorrhage soon ceased ; but the patient became very delirious, in so much that five men could scarcely keep him in bed. The delirium went entirely off in the space of six hours, and was succeeded by a refreshing sleep. Next morning (Aug. 4.) he felt himself tolerably easy, but remarkably weak. On the evening he became very feverish, and continued so for two days, when every degree of fever

fever entirely left him. The wound looked well, and discharged a laudable pus on the third day from the accident. He had now very little uneasiness, excepting only slight pains that seized his head at times, but lasted only a few seconds. From this time he continued to do well, and the wound to heal kindly, till August 28. when, in the evening, he became as delirious as at first, and continued so for five days. He was so outrageous, that little assistance could be given him. Sinapisms applied to his feet seemed to do him much service. It was with great difficulty that he could be held so as that I might dress the wound on his head, which to my surprise wore a very favourable appearance, and was entirely healed on September 7. He continued well and able to walk about in his room until September 15. when the delirium returned with as much violence as before. It lasted one night, and went entirely off, leaving him however somewhat weak, from his strength being much exhausted by the efforts he made during its continuance. From this time he continued free from any complaint or return of delirium until the 2d of October, when it again recurred, and lasted for two days. Af-
ter

ter it went off, his strength, as usual with him after these attacks, was much reduced; but he soon recovered it, and continued in every respect well for more than a month, when he obtained a furlow to go to the country for the better re-establishing of his health. During his absence from quarters, which was three months, he was seized with a giddiness, which lasted for a day, and went off. He has not had any returns of delirium since October 2. and is now perfectly well.

XV.

Account of the advantageous Effects derived from the Cortex Simaroubæ, in an obstinate Fluor Albus. By Dr. William Speer, Physician in Dublin. Communicated to Dr Duncan.

I Was, on the 20th of last March, called to the assistance of C. W. a young woman about the age of twenty-five, who was very much weakened by an immoderate flux of the catamenia, to which she had before been subject. She had been, as I was informed, of an healthy constitution, and pretty regular in her monthly evacuations,

uations, till about three months before I saw her. She was, when labouring under the discharge, overheated by washing some linen ; the consequence of which was, that the catamenia flowed to such a quantity as to throw her into a syncope ; which obliged her assistants to put her to bed, and call a midwife to her assistance, who ordered her some cordial medicine, and supported her with a nourishing diet ; and in the space of twelve days she was free of the discharge of the catamenia, but was afterwards attacked with a severe fluor albus ; and, from her own account, every third week after this period, she observed her menses to return, but in a very sparing quantity. By the excess of the former evacuation which she laboured under, as well as the one to which she was subject when I saw her, she was reduced, by her friends account of her, from a healthy constitution to an exceeding weak and emaciated habit of body, and was often seized with syncope and hysteric fits.

The very great recommendation which I received some short time before this case occurred, of the tonic virtues of the cortex simaroubæ in obstinate uterine fluxes, from a very ingenious apothecary, induced me to make
trial

trial of that bark in this woman's disease. I had indeed before used it in a similar one; and there it answered my most sanguine wishes.

The patient had a total loss of appetite; was inclined also to costiveness; her pulse weak and intermitting. The state of her distemper, therefore, required that the fluor albus should be put a stop to, and that her decayed strength should be restored; and with a view of answering the indication proposed, she was prescribed the following decoction.

Coque cort. fimaroubæ crassæ pulv. unc. i.
in vin. rub. Lusitan. lb. ff. et
aquæ font. lb. i. ad lb. i. cola, et adde
Elix. vit. acid. scrup. duos. Syr. simp. unc.
i. ff. M. pro usu.

Cujus capt. coch. duo mag. tertia quaque
hora.

Injiciatur enema purgans statim.

Injiciatur vagin. necnon injectionis sequentis
unc. una, ter quaterve de die.

R̄x. Decoct. supra præscripti, unc. vi.

Sacchar. saturnii, gr. i. M. fiat inject.

March 23. She finds herself easier, the discharge being now somewhat diminished, but complains of considerable loss of strength, and
that

that the clapping or shutting of a door hastily, throws her into violent palpitations. The opening injection, which was administered the 20th, had the desired effect, since which she has had no stool. Her pulse is soft and weak; she has got little natural rest for two preceding nights.

Cap. sal. Glauberi cath. dr. vi. statim,
more solito;

et haust. anodinus, H. N. hora decubitus.

March 24. The purgative procured her two or three motions yesterday, and she slept tolerably well last night; she has had no return of the palpitations; pulse stronger and firmer. As the cortex fimaroubæ sits easily on her stomach, she was ordered the following prescription.

R̄. Pulv. subtiliss. cort. fimaroub. dr. ff.

vin. rub. Lusitan. unc. i. Syr. simp. dr. i. ff.

M. fiat haust. tertia quaque hora repetend.

Utatur inject. e cort. fimaroub. ut antea.

25. She has this day a return of the flooding, which however was soon put a stop to by the usual applications; as also of the palpitations; pulse soft and feeble; belly bound.

Injiciatur

Injiciatur enema domestic. statim.

Capiat haust. ut antea jussum, secunda quaque hora.

Utatur infus. rosar. rub. pro potu ordinario :

Let her diet consist of nourishing food.

March 26. Had no return of the flooding since yesterday ; she has had two motions from the injection yesterday evening ; got some natural rest last night ; pulse stronger, and she thinks she is recovering her strength.

Continuentur medicamenta.

27. Slept well last night ; pulse 68, and soft ; her stomach, which had hitherto been much disordered, is now so much strengthened as to make her complain of hunger.

Continuentur medicamenta.

28. The flour albus has now stopped ; she continues to gain strength daily, and finds herself free from all complaints ; and is at present so well recovered as lately to have been induced to enter into matrimony.

S E C T. IV.

Medical News.

THE works of the late Dr David M'Bride of Dublin, having rendered him universally known, not only as a Physician, but as a Philosopher, the following particulars of his life, we presume, may prove acceptable to our readers.

Dr M'Bride was descended from an ancient family of that name in the shire of Galloway in Scotland; his grandfather was bred to the church, and was called over about the end of last century, to officiate at Belfast to a congregation of Presbyterians.

Dr M'Bride's father was also bred to the church. He married a daughter of Mr Boyd

of Kilabeg in the county of Down, and was minister of Ballymony in the county of Antrim, where David was born on the 26th of April 1726.

He received the first elements of his education at the public school of Ballymony ; and after serving an apprenticeship to a surgeon of that place, he went into the royal navy, where having served for some time as mate in an hospital-ship, he was at last appointed to the rank of surgeon, in which station he remained for some years preceding the peace of Aix-la-Chapelle.

It was at this period that he first turned his thoughts towards the discovery of a remedy for the scurvy ; a disease which a sea-faring life had afforded him many opportunities of observing in all its stages.

After the peace of Aix-la-Chapelle, Mr M'Bride went to Edinburgh and London, where he studied anatomy under Drs Monro and Hunter, and midwifery under Dr Smellie ; and he attended the lectures of other distinguished teachers on different branches of medicine.

About the end of the year 1749, he settled in Dublin as a surgeon and accoucheur. But
being

being young, and remarkably bashful, he remained a number of years in obscurity, little employed among people of rank. His great abilities were then only known to his family connections, and to a circle of select friends. These, however, were captivated with his company, not only from his being possessed of agreeable manners and a fine disposition, but from his general knowledge in painting, music, and other branches of polite literature.

His Experimental Essays, which were first published in 1764, were received every where with great applause, and were soon translated into different languages; and the singular merit of this performance induced the university of Glasgow to confer the degree of Doctor of Physic on its Author.

The improvement introduced by Dr MacBride in the art of tanning, by substituting lime-water for common water in preparing ooze, procured him the honour of a silver medal from the Dublin Society, in the year 1768, and of a gold medal of very considerable value from the Society of Arts and Commerce in London.

For several years after Dr M'Bride obtained a degree in physic, he employed part of his

time in the duties of a medical teacher, and delivered at his own house, a course of lectures on the theory and practice of physic, which were no less useful to those who embraced this opportunity of improvement in their profession, than they were creditable to the lecturer.

In the year 1772, these lectures were published at London in one volume quarto, under the title of, *An Introduction to the Theory and Practice of Medicine*; and in the year 1774, they were translated into Latin, and published at Utrecht in two volumes octavo.

A second edition of this work, in an English dress, corrected in some particulars, and enlarged in many others, was printed at Dublin in 1777; and it may justly be considered as a publication, from an attentive perusal of which, the diligent practitioner, as well as the industrious student, may derive much useful instruction.

The abilities of Dr M'Bride being by these means universally known, he at length obtained that high reputation to which he was justly entitled. His employment in the line of his profession increased so quickly, as soon to afford him rewards suitable to his merit; and the public seemed now to wish to make
amends

amends for having overlooked him so long, by throwing more business into his hands than he could manage either with ease or safety.

His extensive employment, particularly as an accoucheur, having for a long time kept him in a perpetual agitation both of body and mind, at last induced a total incapacity for sleep; still, however, he kept in good spirits, and appeared to be in good health till the end of November 1778, when an accidental cold brought on a fever and delirium, which put an end to his life on the 13th day of December, in the 53d year of his age.

His death was sincerely lamented by persons of all ranks. Men of sense and reflection, who knew his value as a citizen, felt for the public on this melancholy occasion: The opulent inhabitants of Dublin felt for their wives and children, deprived of a skilful physician and compassionate assistant in the hour of danger; and numbers of the indigent part of the community felt for themselves, on the loss of a liberal benefactor, whose benevolence had often alleviated their distress.

* * * *

We are favoured with the following account of Dr d'Aubanton's new system of Mi-

neralogy, by Mr Ewart, student of medicine at Edinburgh; to whom it was communicated by Mr Andrew Lumsden of Paris.

Natural history is a description of what we know of the productions of Nature. Altho^o inquisitive man has made considerable progress in the study of Nature; much, no doubt, still remains to be investigated. Nothing facilitates more than method, this extensive and intricate, but useful and agreeable science. It is therefore divided into three great branches, commonly called Reigns or Kingdoms, *viz.* the mineral, the vegetable, and the animal. The naturalist classes methodically each body in the kingdom to which it belongs. Two of these kingdoms are organized, *viz.* the vegetable and animal, but the mineral is unorganized. As the latter is the most simple of the three, with it the naturalist generally begins his enquiry into Nature.

Dr d'Aubanton, Professor of Natural History in the Royal College of Paris, has, in his learned lectures during the years 1778 and 1779, divided the mineral kingdom into four orders, *viz.*

1st, Sand, earth, and stones.

2d, Salts.

3d, Sulphur.

4th, Semi-metals, and metals.

The characteristic marks of the first order are, that they do not dissolve like salts ; that they do not smell like sulphur ; and that they do not shine like metals.

The first order is subdivided into four different classes, and these are thus distinguished, *viz.*

1st, Vitriifiable substances, which emit fire when struck with steel, but do not effervesce with acids.

2dly, Argillaceous substances, which do not emit fire when struck with steel, and do not effervesce with acids.

3dly, Calcareous substances, which effervesce with acids, but do not emit fire when struck with steel.

4thly, Sand, earth, and stones, formed from a mixture, and consequently partaking of the properties, in proportion to that mixture of the vitriifiable, argillaceous, and calcareous substances.

The second order contains the fossile salts ; they are alkaline or neutral ; they dissolve in water, and are not insipid.

The third order is sulphur, which is distinguished by its smell. And

The fourth order is the metallic substances ; although not numerous, they are of the greatest importance in medicine, and in all the various arts. They are very different from any other natural bodies yet known. Indeed, from their solidity and density, they approach nearest to stones ; yet a cubic foot of marble weighs 250 pounds, whilst a cubic foot of tin, the lightest of all the metals, weighs 516 pounds, and a foot of gold, 1348.

They are divided into four classes, *viz.*

1st, The semi-metals, which are not malleable or ductile.

2d, Mercury, formerly classed among the semi-metals ; it is now classed by itself, because, by the experiments made by the Academy of Peterburgh in the year 1759, it appears, that it may be fixed by cold, till it becomes malleable to a certain degree.

3d, The metals that are ductile and malleable ; it is difficult to arrange them methodically, since it appears by the table, that none of them possess all the metallic properties in the highest degree.

4th,

4th, Metallic substances, composed of semi-metals and metals.

There are fourteen metallic substances now known ; three of which have been discovered by the moderns, *viz.* Cobalt, nickel, and platina. The natures indeed of the two last are not ascertained.

In the foregoing Table, Dr d'Aubanton has thus methodically arranged the mineral kingdom, according to their different natures, and with their distinctive characters, which are apparent or easily known.

* * * *

The following account of the state of the thermometer and barometer, as observed at the Botanical Garden in the island of Jamaica, has been communicated by Dr Clarke, superintendant of the garden, to Dr Duncan.

METEOROLOGICAL JOURNAL.

O C T O B E R.

		Bar.	Ther.
7. Morning, highest	-	28 $7\frac{1}{2}$	75
Lowest,	-	28 5	70 $\frac{1}{2}$
Medium,	-	28 6	72 $\frac{1}{2}$
			2. After-

		Bar.	Ther.
2. Afternoon, highest	-	28 $6\frac{1}{2}$	89
Lowest,	-	28 $4\frac{1}{4}$	73
Medium,	-	28 $5\frac{3}{4}$	86
Highest during the month,		28 $7\frac{1}{2}$	89
Lowest,	-	28 $4\frac{1}{4}$	$70\frac{1}{2}$
Mean height,	-	28 $5\frac{3}{4}$	$79\frac{1}{4}$
Rainy days, 19.			

On the 18th, $\frac{1}{2}$ past 3 p. m. a small Fahrenheit's thermometer, exposed to the sun-shine 15 minutes, stood at $108\frac{1}{2}$.

N O V E M B E R.

Morning, highest	-	28 8	74
Lowest,	-	28 6	$68\frac{1}{2}$
Medium,	-	28 $6\frac{1}{4}$	$70\frac{3}{4}$
Evening, highest	-	28 $7\frac{3}{4}$	88
Lowest,	-	28 $5\frac{1}{4}$	74
Medium,	-	28 6	$79\frac{3}{4}$
Highest during the month,		28 8	88
Lowest,	-	28 $5\frac{1}{4}$	$68\frac{1}{2}$
Mean height,	-	28 $6\frac{1}{2}$	$75\frac{1}{4}$
Rainy days, 14.			

On the 18th, the small thermometer rose in the sun-shine at 3 p. m. after 15 minutes exposure, to 110; and next day, almost at the same

same hour, to 112.—Intermittent and remittent fevers said to be frequent in Kingston.

DECEMBER.

		Bar.	Ther.
Morning, highest	-	28 $8\frac{1}{4}$	71
Lowest,	-	28 $6\frac{3}{4}$	65
Medium,	-	28 $7\frac{1}{4}$	67
Evening, highest	-	28 $7\frac{3}{4}$	87
Lowest,	-	28 $6\frac{1}{4}$	74
Medium,	-	28 7	79 $\frac{1}{4}$
Highest during the month,		28 $8\frac{1}{4}$	87
Lowest,	-	28 $6\frac{1}{4}$	65
Mean height,	-	28 $7\frac{1}{4}$	73 $\frac{1}{4}$

Rainy days, 15.

Fevers more violent and fatal in town.

JANUARY, 1778.

Morning, highest	-	28 $8\frac{1}{2}$	67
Lowest,	-	28 $6\frac{1}{2}$	64
Medium,	-	28 $7\frac{1}{2}$	65 $\frac{1}{2}$
Evening, highest	-	28 8	88
Lowest,	-	28 6	78
Medium,	-	28 7	80 $\frac{1}{4}$
Highest during the month,		28 $8\frac{1}{4}$	88
Lowest,	-	28 6	64
Mean height,	-	28 $7\frac{1}{4}$	72 $\frac{1}{4}$

One hour of rain.—Fevers less frequent.

FEBRUARY.

F E B R U A R Y.

		Bar.	Ther.
Morning, highest	-	28 $8\frac{1}{4}$	68
Lowest,	-	28 $6\frac{1}{2}$	63
Medium,	-	28 $7\frac{1}{2}$	65
Evening, highest		28 $8\frac{1}{4}$	90 $\frac{1}{2}$
Lowest,	-	28 $6\frac{1}{2}$	73
Medium,	-	28 $7\frac{1}{2}$	83
Highest during the month,		28 $8\frac{1}{4}$	90 $\frac{1}{2}$
Lowest,	-	28 $6\frac{1}{2}$	63
Mean height,	-	28 $7\frac{1}{2}$	74

Four showery days.—Kingston healthy.

M A R C H.

Morning, highest	-	28 $7\frac{3}{4}$	67
Lowest,	-	28 7	62
Medium,	-	28 $7\frac{1}{4}$	65
Evening, highest	-	28 $7\frac{3}{4}$	82
Lowest,	-	28 $6\frac{1}{4}$	74
Medium,	-	28 $6\frac{3}{4}$	77 $\frac{3}{4}$
Highest during the month,		28 $7\frac{3}{4}$	82
Lowest,	-	28 $6\frac{1}{4}$	62
Mean height,	-	28 7	72

* * * *

Mr Ronaldson, one of the assistant surgeons to the hospital in Canada, in a letter to Dr Hope, gives him the following account of the speedy termination of a wound penetrating into the colon without any bad consequences.

“ One

“ One of the Indians here was lately wounded by one of his companions in a drunken quarrel, in a manner which I at first imagined would be very dangerous, but which was not in reality the case. He was stabbed with a knife on the left side, near the lumbar vertebræ, about half way between the os ilium and the false ribs. There could not be the smallest doubt that the knife had penetrated into the colon, as fæces were discharged by the wound for near three weeks. He had, however, no symptom of any considerable degree of inflammation, and was completely cured in five weeks ; he is now in perfect health, and able to undergo the fatigues of hunting.

“ May not this serve to shew, that there would be little danger from cutting into the posterior part of the colon, in cases where concretions are lodged there which cannot be discharged by the natural passage.”

* * * *

Although many accounts of the very intense degree of cold observed at Glasgow on the night between the 13th and 14th of January, have been published in different newspapers, and other periodical publications, yet we presume it will not be disagreeable to any
of

of our readers that it should be recorded in this work.

On Wednesday January 12. 1780, the cold increased all the day, but so gradually that at sunset it was not more than 12 degrees below the freezing of water by Fahrenheit's thermometer.

Thursday January 13. at one o'clock in the morning, the atmosphere being still and serene, and the barometer at $29\frac{2}{10}$ inches, Fahrenheit's thermometer, when exposed at a high north window in the college court, sunk to 26 degrees below the freezing point; and in five hours afterwards, it fell six degrees more, that is, to 32 degrees below the freezing of water. The same instrument was then carried to the observatory park, and there laid on the surface of the snow; in which situation it fell to 45 degrees below the freezing of water; and this great degree of cold was verified by another very accurate thermometer, which was made by a different hand.—The cold increased all this day; and observations were taken every half hour, from this evening till the sun rose on Friday morning.

Friday January 14. at six o'clock in the morning, two thermometers, when hung in
the

the air in the observatory park, stood at 46 degrees below the freezing point in Fahrenheit's scale ; and other two, when laid on the surface of the snow, fell to 55 degrees below the freezing point in the same scale, while the same snow, near the surface of the earth, was only three degrees below the freezing point. At this time the air was perfectly calm, and though there was a little breeze near the horizon, not a cloud was to be seen, and the stars shone with a full and steady light. The cold became much less intense on Friday evening, and a thaw began on the Saturday following.

Of the accuracy of these observations there can be no room for entertaining any doubt, since they were made by several gentlemen belonging to the university, on whose report the most implicit confidence may be put, particularly by Dr Irvine, Professor of chemistry, and by Mr Patrick Wilson, son to the ingenious Professor of practical astronomy.

The following observations were made during the same days in the botanical garden at Edinburgh ; and will serve to shew, that the degree of cold was by no means so intense there as at Glasgow. The thermometer employed

ployed was made by that accurate artist Dr Wilson ; and it was hung, during the observations, on the north side of a tree in the botanical garden.

On Wednesday the 12th of January, at seven o'clock in the morning, it was 15 degrees below the freezing of water ; by four in the afternoon it had risen to 10, and at eleven o'clock in the evening it had fallen to 13 degrees below the freezing point.

On Thursday the 13th, at seven in the morning, it was at 16 degrees below the freezing of water ; at four in the afternoon 7, and at eleven at night 22.

On Friday the 14th, at seven o'clock in the morning, it was 25 degrees below the freezing point ; by nine o'clock it fell two degrees more, *viz.* to 27 ; by ten it had risen to 24, and by four in the afternoon to 5, and at eleven at night it stood at 9.

Thus it appears, that in the morning of the 14th, when the cold was most intense at both places, the thermometer, suspended in the air, was 19 degrees lower at Glasgow than at Edinburgh ; being at the latter of these places five degrees above 0, in Fahrenheit's scale, and at the former 14 below it.

Dr

Dr Irvine, in a letter to Dr Duncan, has the following remark : “ A very unexpected circumstance occurred in the course of our observations, namely, a constant difference of temperature between the air and the surface of the snow ; which was sometimes 14° , and never less than 8° colder than air.”

* * * *

At the quarterly meeting of the Royal College of Physicians of Edinburgh, on Tuesday the first of February, Dr James Hamilton of Dunbar was elected a Fellow,—and Dr William Wright, and Dr Charles Webster, were admitted Licentiates.

About the beginning of May, Drs Duncan and Webster will begin, at Edinburgh, their Lectures for the summer season, on the cases of Patients subjected to Chronical Diseases, and on the Materia Medica.

* * * *

The following Address from Dr Francis Armstrong, Physician at Uppingham, in the county of Rutland, to the Physicians and Gentlemen of the Faculty in Great Britain, respecting the use of Matlock waters, may, we presume, afford useful information to many of our readers.

Matlock has long been famed for its mineral springs and baths ; but it has, till lately, been frequented by few invalids, though a number of able men have written learnedly upon the properties of its waters, and their effects in different disorders. How it so long escaped the attention of the neighbouring physicians, I am at a loss to account for ; as they continued sending their patients to Bristol, to the total neglect of their neighbouring springs, which are equal, if not preferable, to the Bristol water.

Dr Percival of Manchester, that most excellent physician and philosopher, has obliged this nation with a few judicious remarks and experiments, in the second volume of his Medical and Experimental Essays, upon the nature of Matlock waters and bath. This seems to have opened the eyes of the neighbouring physicians and practitioners ; the consequence of which has been, that the number of invalids has increased every year ; and the very extraordinary cures performed by this water, have lately recommended it in such a manner, that, at this time, it is frequented by patients from every part of England.

I have taken great pains to examine particularly into the properties of Matlock springs, and may with truth assert, that they are of the same nature with the Bristol water, equal in some cases, and preferable in many. Nor do I think that the air of Matlock is obnoxious in the least to consumptive patients, where the lungs are not injured in such a manner as to render a recovery very doubtful, either from the use of medicine or water ; nor have I, in my whole practice, had the least complaint of this inconvenience from any of my patients.

I ordered a most amiable lady last year to drink the Matlock waters, in a confirmed phthisis pulmonalis, and in such a situation, that I must own I never expected to see her return. Being greatly interested in her preservation, I gave her full directions how to proceed. With much difficulty she reached the place. The company, in a very uncandid manner, cried out, “ What a cruel physician, “ to send the lady so far from home to die ! ” I saw the lady but three days before she left home, otherwise she should have visited Matlock much sooner. She strictly persevered in the rules laid down, and in a fortnight was

enabled to dine in public ; in six weeks, was perfectly recovered, having got rid of her cough, and being greatly increased in muscular habit. I visited her on her return, and had I not been perfectly acquainted with her before, I should not have known her. She has continued well ever since, and I hope will for many years, as a blessing to her young family, and a comfort to the best of husbands.

I hope I shall be excused reciting this case, it being one amongst many, in which I have experienced the good effects of this water ; and indeed patients whom I have sent to Bristol, and who have returned benefited in some measure, have afterwards been restored to a perfect and lasting state of health, from the use of Matlock water.

I have, in the course of seven years, sent a great number of patients to Matlock, and in cases where medicine had not the least prospect of being serviceable ; all of whom have had perfect and lasting cures ; and I may with truth declare, I have not failed in one instance. However contrary to the opinion of some my practice may be, I have, after repeated trials, found, that in many cases much advantage has been gained by the administration of medicines,

medicines, in conjunction with the course of water drinking ; being well-timed, so as to act in an uniform manner, they had excellent effects, the water being greatly assisted in its operation.

As for the bath (if I may be allowed the expression) it is the coldest hot bath of any I know in Europe ; and, from its temperature, it may with propriety be used either as a cold or hot bath. I am informed, that Mr Archwright is going to build hot and vapour-baths at Crawford ; if that spirited gentleman executes his plan, Matlock will be one of the most complete places of resort we have in England, as baths of such a nature will render the waters useful in almost every disorder.

I have, when I have been at Matlock, lamented the want of a proper person to regulate the patients as to the course they ought to pursue. Humanity has induced me to interfere with some who came there for health, and were evidently destroying what they wished to preserve.

At the request of many of my good friends, I have resolved to take upon me the medical direction of Matlock water the ensuing summer. This will be both hazardous and ex-

penfive, as I shall make a point of having every thing upon the spot which may in the least assist the waters in their operation. Besides this, my removal for so many months from my situation, at present so desirable, must deprive me of the society of many valuable and agreeable friends ; yet I think the good it may produce, will overbalance every other consideration. It has been my opinion through life, that private interest should always give way to public good.

I can promise myself nothing, unless I am supported by the Physicians and Gentlemen of the Faculty ; it is through them alone I can be furnished with a sufficient number of cases, and from such cases can I do that justice to the waters which they merit. Should I be so lucky as to meet with this support, I pledge myself to publish regularly every case worthy publication ; but not till such time as I have had sufficient experience to authenticate what shall be published.

I perfectly agree with Dr Percival, that a larger quantity of Matlock water may be drunk at a time, than of any other mineral water I am acquainted with, owing to the entire absence of any mineral spirit ; yet it is al-

ways

ways advisable to begin with small quantities. From the want of mineral spirit, it is less apt to throw the circulation of the blood into irregularities, or quicken the pulse ; and, therefore, it must have the preference to Bristol water in the phthisis pulmonalis, hæmoptoe, diabetes, fluor albus, &c. In all these, I have experienced the most happy effects from it, as well as in hectic and low fevers, in hysteric and hypochondriac affections, in a profluvium or deficiency of the catamenia, in bilious disorders, in constitutions debilitated by long and severe vernal and autumnal intermittents, in disorders arising from long residence in hot climates, in broken constitutions, brought on by hard and habitual drinking, and in weak or depraved appetites. I intend to reside constantly at the hall in Matlock, from the beginning of June till the latter end of September, or longer ; but this must depend upon the company that is there.

* * * *

In the month of March 1778, Dr Clarke of Jamaica, in a botanical excursion, after two days and a half of a laborious ascent, reached the summit of the Blue Mountain Peak, where no human foot had ever trode, and which had

before been considered as inaccessible. De Luc's portable barometer from 30. 2. where it is almost stationary at the level of the sea, the mercury in the thermometer, pointing at the time of observation (10. A. M.) to 85, fell at noon at the summit to 23. 3. while the thermometer stood at 60. In August following, Dr Clarke slept two nights in a hut on the same spot, when the range of the thermometer was from a little above 47. at day-break, to somewhat more than 58. at noon. Though this mountain has much of the volcano appearance, no traces of lava, or a crater, were discovered. It was found to be shaded with wood to the very top, and the ground and trees covered to a great thickness with the mosses common in Europe. He has lately discovered immense collections of coral-lines, and of loose and petrified sea-shells, at places from 1090 to 3000 feet above the level of the sea. This seems to contradict the commonly received opinion, that the chain of West India islands was once connected to the continent. A friend of Dr Clarke's, Mr Alexander Roberts, has lately found a species of the *Cinchona* with racemose flowers, very similar to these of the *Cinchona Caribæa* of Jaquin and Linnæus,

Linnæus, and to the Cinchona Jamaicensis of Dr Wright. It is however a better astringent bark, and is difficultly distinguished from the Peruvian. A trial has been made with the powder of this bark, in doses of half a dram, on a negro labouring under a severe and regular tertian, which it perfectly cured.

* * * *

A building has lately been begun at Edinburgh, for the use of the Public Dispensary at that place. Below the foundation-stone was deposited a medal, on which was engraved a figure of the Goddess of Health, with the words *Salus Publica* for a legend; and, on the reverse was the following inscription; *Valetudinarium Edinburgenum, conditum anno post Christ. nat. 1780*. The expence of this building is defrayed by voluntary contributions; and from the advantages of which the charity has been already productive, there is every reason to hope that it will meet with the encouragement it deserves. The Dispensary of Edinburgh has not only afforded relief to thousands subjected at once to poverty and disease, but has also furnished to the students at that place, an opportunity of learning by experiment and example, the most proper practice

practice in those diseases which cannot, with propriety, be admitted into an hospital. It is therefore hoped, that the present undertaking, which is calculated to give permanency to this institution, and to furnish it with advantages which it has not hitherto enjoyed, may be promoted, not only by the inhabitants of Edinburgh, but also by others who wish to encourage medical education, or the improvement of the healing art.

* * * *

On Thursday the 26th of October, Dr Duncan will begin at Edinburgh his course of Lectures on the Theory and Practice of Medicine; and on Saturday the 28th of October, he will begin his Winter Course of Case-Lectures. Each Course continues for about six months: The fee for a first Course is Two Guineas; for a second, One Guinea; after which, the Pupils become perpetual, without any further fee, excepting half a guinea in name of medicine-money, for the benefit of the Dispensary, when they attend the Case-Lectures.

* * * *

A new edition of the Works of the late Alexander Monro, Professor of Anatomy in
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the university of Edinburgh, is at present in the press. This publication is superintended by his son, the present Professor of Anatomy at Edinburgh. It will consist of one volume in quarto. In this will be collected his whole works which have been already printed, with additions and corrections from his own manuscripts, and notes by his son. But, besides these, it will contain also some papers which he left in manuscript, and which have never hitherto been published. His Comparative Anatomy, which, during his life-time, was only surreptitiously published by one of his pupils, will now appear in a more accurate and extensive form.

* * * *

A new work in Midwifery, by Mr Alexander Hamilton, surgeon in Edinburgh, is also in the press. This work is principally intended for the use of female practitioners, and is calculated to afford plain and simple directions for the management of a variety of female complaints, as well as cases in midwifery. In this view, it must be a valuable acquisition. For there are few books designed for the use of women in any language; and the only publications in the English language that can fall

fall into their hands, which do not abound with such technical terms as must render them unintelligible, contain none of the late valuable improvements in the art. If this publication shall have the effect of removing any of these numerous prejudices, by which many of the female practitioners are influenced, and of awakening their fears, when it is necessary that recourse should be had to superior skill, it may be productive of the most valuable services to the community.

* * * *

Although the following paper will probably soon fall into the hands of some of our readers through the channel of the Philosophical Transactions, yet we flatter ourselves it will not be disagreeable to many of them, that we employ a few pages in communicating early intelligence of what promises to be an important discovery.

*To the Right Honourable the Earl of STAMFORD,
President of the Agriculture Society at Manchester.*

MY LORD,

THE following account of a new method of making pot-ash was lately read before the Royal

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al Society, and will be inserted in the next publication of that learned body. But as the discovery is highly interesting to the farmer, and the Philosophical Transactions are in few hands, I take the liberty of communicating it to the Agriculture Society.

I have the honour to be,

My LORD,

Your Lordship's most humble Servant,

THOMAS PERCIVAL.

Manchester, April 19. 1780.

An Account of a new and cheap Method of preparing POT-ASHES; with Observations.

THE Agriculture Society at Manchester, have long recommended the making of reservoirs for the water which flows from dung-hills in farm-yards. This water is strongly impregnated with the salts and putrid matter of the dunghill; and by stagnation, it acquires a much greater degree of putrescency, and probably becomes proportionably more replete with salts. When thus collected and improved, it is pumped into an hoghead, which being drawn upon a sledge or small cart, is conveyed into the meadows, for the purpose of sprinkling them with this rich manure. This important improvement in

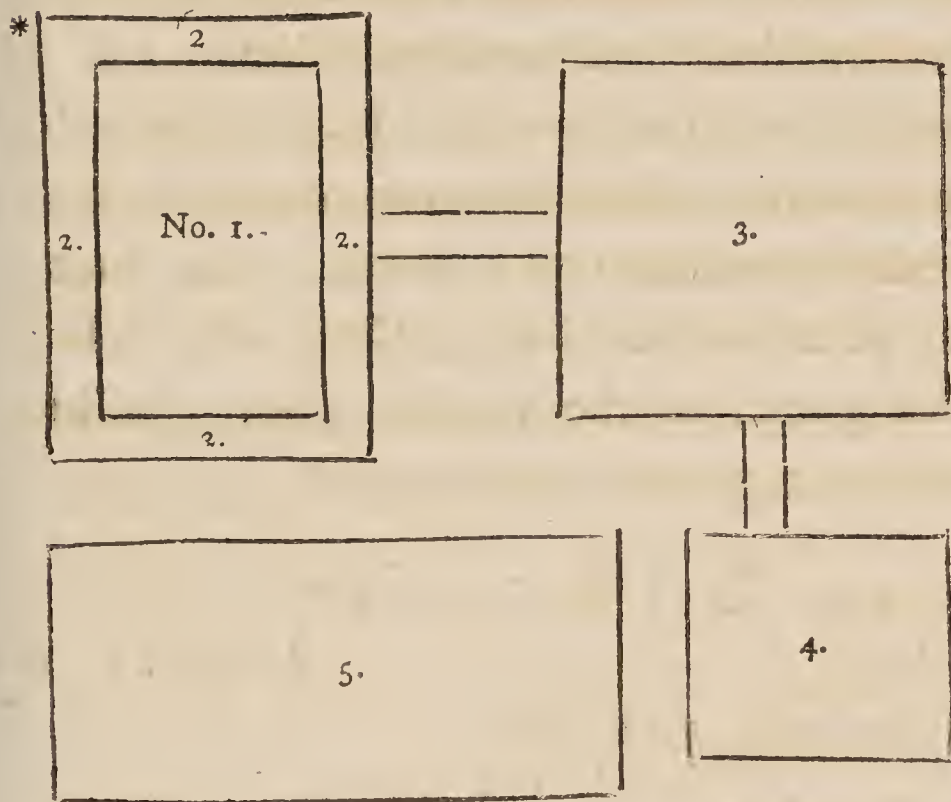
rural

rural œconomy, I apprehend, has not been extended much beyond the district of our Society; and it seems to be unknown to one of the latest and most intelligent writers on husbandry. For Lord Kaimes, in a recent work on this subject, of which he has favoured me with a copy, has not even mentioned it.

But these reservoirs may be applied to a purpose still more subservient to public utility than that above described. Josiah Birch, Esq; a gentleman who carries on an extensive manufactory, and bleaches his own yarn, about six months ago, was induced, by a happy turn of thought, to try whether the dung-hill water might not be converted into pot-ashes. He accordingly evaporated a large quantity of it, and burnt the residuum in an oven; the product of which so perfectly answered his expectations, that he has ever since continued to prepare these ashes, and to employ them in the process of bucking. A stranger to that narrowness of spirit, which seeks the concealment of a lucrative discovery, he is desirous that it should be communicated to the Royal Society, and has furnished me with
the

the following account, together with the plan annexed *.

“ The quantity of muck-water used, was
 “ twenty-four wine-pipes full; which employ-
 “ ed



“ No. 1. The dunghill.

“ 2. A fough, or drain, round the bottom of the
 “ dunghill.

“ 3. A hole, or pit, to receive the muck-water from
 “ No. 1.

“ 4. A well to receive the muck-water from the
 “ pit, wherein a pump is fixed to convey it to the pan,
 “ No. 5. in which it is boiled to the consistence of treacle,
 “ and afterwards burned in an oven. The pan, No. 5. is
 “ formed at the bottom of iron plates, and turned up a
 “ little round the edges, to which deal-planks are screw-
 “ ed, so as to make it about twenty inches in depth.”

“ ed a man and two horses two days, to cart it
 “ from the pump to the pan wherein it was
 “ boiled: But this expence I shall now save,
 “ as I shall lay a fough of brick, which will
 “ convey it from the pump to the boiler.
 “ The coals used to boil and burn it, were
 “ one hundred and twenty baskets; and I
 “ suppose each basket weighs six score pounds,
 “ or upwards. One man was occupied three
 “ weeks in boiling and burning. The quan-
 “ tity of ashes made, was 9 Cwt. 1 Q. 12 lb.;
 “ well worth, at the present price of ashes
 “ here, two guineas *per* hundred.

“ 9 Cwt. 1 Q. 12 lb. at 42 s. *per*

“ Cwt. - - - L. 19 13 0

“ A man and two horses

“ two days, at 6 s. L. 0 12 0

“ 120 baskets of coals,

“ at 5 d. *per* basket, 2 10 0

“ A man's wages for

“ three weeks, - 1 7 0

————— L. 4 9 0

—————
L. 15 4 0

“ The gain therefore amounts to L. 15, 4s.
 “ deducting only a trifle for the wear of the
 “ pan and oven.”

The

The profits arising from this preparation of pot-ash, are sufficiently evinced by the foregoing estimate ; and they may, perhaps, admit of increase by future improvements. In the spring and summer seasons, I should suppose the evaporation might be carried on without the aid of fire ; by conveying the dunghill water from the reservoir, through proper sluices, into shallow troughs or ponds, of such extent as to afford a sufficient surface for the action of the sun and wind *. These might be covered in rainy weather with awnings of

VOL. VII. C c canvas,

* The following abridged view of a meteorological register, which I kept with great exactness during the years 1774 and 1775, may throw some light on the practicability of this plan in the climate of Lancashire, which, I believe, is nearly the same as that of most of the other western counties of England.

1774.				1775.				
Months.	Thermometer		Days.		Thermometer		Days.	
	2 o'clock P. M.		rainy.	dry.	2 o'clock P. M.		rainy.	dry.
	highest.	lowest.			highest.	lowest.		
Jan. Feb. Mar.	56	28	25	65	54	30	61	29
Apr. May, June,	72	45	55	36	78	51	42	49
July, Aug Sep.	75	53	66	26	74	48	62	30
Oct. Nov. Dec.	60	30	43	49	64	32	50	28†
52,		25	189	176	55,	7	215	136
Mean heat.					Mean heat.			

† 14 days omitted ; no account being taken.

canvas, painted on the outside black, and white on the inside; the former with a view to absorb, the latter to reflect the rays of light.

This pot-ash is of a greyish white appearance, deliquesces a little in moist air, but if kept in a dry room near the fire, acquires a powdery surface. It is hard, and of a spongy texture when broken, with many small crystals in its substance. The colour of its internal parts is dusky, and variegated. To the taste, it is acrid, saline, and sulphureous. It emits no smell of volatile alkali either in a solid form, dissolved, or when added to lime-water; neither does it communicate the sapphire colour to a solution of blue vitriol. Silver is quickly tinged black by it; a proof that it contains much phlogiston. Ten grains of this pot-ash required eleven drops of the weak spirit of vitriol to saturate them: the like quantity of salt of tartar required, of the same acid,

The Thermometer was made by Dolland, and graduated according to the scale of Fahrenheit. It was placed in the open air, and in a northern exposure. The column of rainy days expresses the *least* as well as the *greatest* quantity of rain; the column of dry includes only those days in which not a single shower was noticed. The day comprehends twenty-four hours. About thirty-three inches of rain, at a medium, fall yearly in Manchester.

acid, twenty-four drops. A strong effervescence occurred in both mixtures: from the former a sulphureous vapour was exhaled. A tea spoonful of the syrup of violets, diluted with an ounce of water, was changed into a bright green colour by five grains of the salt of tartar; but ten grains of this new pot-ash were necessary to produce the same hue in a similar mixture. Half an ounce of the pot-ash dissolved entirely in half a pint of hot water; but when the liquor was cold, a large purple sediment subsided to the bottom: and it was found, that this sediment amounted to about two thirds of the whole quantity of ashes used.

I have not leisure at present to prosecute these experiments farther; and shall therefore content myself with making a few general observations on the facts which have been advanced.

1. This pot-ash is a true fixed vegetable alkali, and a product of putrefaction which has not, that I recollect, been noticed by the chemists. A very celebrated writer has even in express terms asserted, that “all vegetables, not excepting those which in their natural state furnish ashes containing much fixed

“ alkali, when burnt, after their acid has
“ been altered by a complete putrefaction,
“ leave ashes entirely free from alkali *.”

2. The quantity of alkali contained in this pot-ash may, with some probability, be estimated at about one-third of its weight; whereas the white Muscovy ashes are said to yield only one-eighth part †. Of its impurities, sulphur is the most injurious to its bleaching powers, and should, in the preparation of it, be carefully separated. A longer-continued and more gentle calcination, in a furnace supplied with a sufficient current of air, might perhaps answer this end. But the most effectual method would be to lixiviate the salts with pure water, after a moderate fusion, and then to evaporate them slowly to dryness. It must, however, be remarked, that in thus freeing the pot-ash from phlogistic matter, another impurity is generated. For both the action of fire, and the solution in water convert into earth a portion of the alkaline salt.

3. No quick-lime appears to be contained in this pot-ash: For a solution of it, poured
from

* Macquer's Dictionary of Chemistry, Article *Alkali*.

† Home on Bleaching, page 157.

from its sediment, remained clear, though long exposed to the air. Nor did it acquire any milkiness by being blown into from the lungs. But perhaps the addition of this caustic substance, in a due proportion, would increase its activity and value, when employed in many of the arts. For the Russian pot-ash is more pungent to the taste, saturates a larger proportion of acid, and dissolves oils more powerfully than the purer alkaline salts. And Dr Home has proved *, that these qualities depend on a large admixture of quick-lime.

4. It would be worthy of trial, to ascertain whether the large purple sediment, which subsides when this pot-ash is lixiviated, might not be applied to the manufacture of Prussian blue, or used in the manner recommended by Mr Macquer, for dyeing wool and silk. See the Memoirs of the French Academy for the year 1749 †.

5. The farmer, though he live at a distance from the manufactures in which pot-ash is employed, may find his account in preparing it from dunghill water. For it will furnish

C c 3

him

* Essay on Bleaching. Neumann's Chemistry, by Lewis.

† See also Neumann's Chemistry, by Lewis.

him with a top-dressing for his garden and land, of great fertilizing powers. But if fuel be dear where he resides, and necessaries wanting for the construction of a furnace, the simple evaporation of the water may suffice. And the putrid lye thus reduced to a solid form, will prove to be a rich manure. At Hart-hill, my summer abode, about three miles from Manchester, I have lately practised a method of making a compost of dung-hill water. The weeds and rakings of the garden, the dressings of the fields, the leaves blown from the trees, and other refuse matters, are put together near the reservoir; out of which the water is occasionally pumped, and scattered over the heap. So strong a ferment almost instantly excites putrefaction; and these vegetable substances are soon converted into a fertile mould, which, retaining the salts and oils of the dunghill water, suffers the superfluous moisture to exhale into the air, or to percolate through it. And I have found by experience, that the compost, thus prepared, is laid on the meadows at less expence, and that it is more efficacious and durable in its operation, than the sprinklings which, at stated times, they formerly received.

For

For my land, though good, and in fine condition, is light and sandy ; and the dunghill water quickly passed below the roots of the vegetables which grow upon its surface.

P O S T S C R I P T.

It has been suggested to me, that the foregoing discovery has no claim to the patronage of the Agriculture Society, because, in this manufacturing county, it may eventually tend to check the cultivation of land, by robbing it of one species of manure. But I conceive the operation of it will be entirely the reverse : For it will promote the collection of every putrescent article, and thus augment the farmer's dunghill, at the same time, that it excites a more universal attention to the preservation of muck-water ; the reservoirs for which are yet few, and have been made chiefly by those who follow husbandry for amusement, and not as an occupation. The public, therefore, will be gainers both by the saving, and by the acquisition ; and a twofold branch of rural œconomy will be established, at once lucrative to the husbandman, and important to the artist and manufacturer.

But admitting all the supposed force of the allegation, it must surely be acknowledged, that the main design of our institution is to increase the productiveness of agriculture, by stimulating the farmer to every beneficial undertaking consistent with his profession. Now, in this case, the *beneficial* is best measured by the Hudibrastic standard: for,

“What’s the value of a thing,

“But so much money as ’twill bring?”

I trust, therefore, that the Society will not, by declining to patronize the present discovery, justify the sarcasm of an ingenious Poet of this place, who has humorously charged some of us with teaching,

“By crops increas’d, and profits less,

“The way t’ enrich the nation.”

*AT a Meeting of the Agriculture Society held
at Manchester, April 24. 1780.*

RESOLVED, *That a Silver Medal be given to JOSIAH BIRCH, Esq; for the Discovery of a new and cheap Method of making Pot-ash.*

RESOLVED, *That the Thanks of the Society be given to Dr PERCIVAL, for his Account of this Discovery; and that the same be printed for the use of the Members.*

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The following directions for preventing fatal effects from drinking large quantities of spirits, have been printed and distributed at Liverpool. They were drawn up by Dr Houlston of that place, in consequence of some melancholy accidents happening from this cause, where proper assistance was not sought for. As such accidents are but too common, it is of importance that the most successful practice in those cases should be generally known.

Many persons are destroyed suddenly by drinking large quantities of spirits. Their first effects are stimulant; they quicken the circulation, and occasion much blood to be thrown upon the head. They afterwards prove sedative; they bring on stupor; loss of reason, total; of motion and sensation, almost total. Their effects may be partly owing to their entering, in some degree, into the circulation, but depend chiefly, when violent, on their action on the nerves of the stomach. In consequence, the brain is affected, and the nervous influence suspended, if not destroyed. All the parts of the body, therefore, partake of this insensibility. As the skin, in some cases,

cases, may be burnt without feeling, so the stomach and intestines may be stimulated considerably without any effect. The motion of the heart and lungs is much enfeebled and interrupted, but continues irregularly till death ensues.

To rescue the person from so dangerous a state is extremely difficult. To counteract these effects by medicine is less likely, both as the power of swallowing is lost, and as probably, little or no absorption then takes place. But we ought to endeavour, *1st*, to evacuate the poison; or else, *2^{dly}*, to dilute it, and thereby weaken its action. With a view to the first, brisk vomits may be given; but, from the want of irritability of the stomach, these often will not act, unless given early, when they are of great service in cases of intoxication. A dock-porter who died from this cause in the Liverpool Infirmary, Feb. 28. 1780, got down over night, nearly twelve grains of emetic tartar dissolved, yet it produced little or no effect, though he lived till the next day. Purges are also proper, but liable, though in a less degree, to the same objections. Sharp glysters may be administered, and will produce some evacuation, but
their

their operation does not extend far enough. Large glysters, of water only, or of water in which purging salts are dissolved, thrown up with some force by a syringe, might be of more service.

Oil has been advised to be given, to help to evacuate the spirit, or to weaken its action.—

But when the inactivity of the stomach is become so great, and the danger so pressing, there seems more reason to expect success, from largely diluting that poison, which we in vain attempt to evacuate. When intoxication has been produced by drinking strong liquors, large quantities of water, or weak liquids drank, are found to lessen it very considerably. And, though the power of swallowing be lost, yet by means of a pipe (as a catheter) passed beyond the glottis, or even down into the stomach, water might be introduced, in such quantity as was judged sufficient to dilute and carry off the liquor in the stomach. To the water might probably be added, with advantage, vinegar, or any kind of acid; or purgatives might be dissolved in it, to facilitate the poison's passing off by the intestines. A pipe of this kind too, would afford

ford the best method of introducing substances into the stomach to promote vomiting.

Putting the body into a warm bath, or the legs and feet in warm water, will be of use, by lessening the quantity of blood accumulated in the head, and in the larger vessels; and some of the water may perhaps be absorbed. With a view to relieve the oppression, bleeding, and opening the temporal artery, are advisable. If the pulse is found to become freer and fuller on losing some blood, more may be taken away. Blisters may also be applied with advantage.

The coldness of the extremities and the evident difficulty with which the circulation is kept up, point out the propriety of assisting it by warmth and friction applied to the skin (as in recovering drowned persons). Motion, to prevent sleep, may probably be serviceable in such cases. Great care should be taken to loosen the neckband, garters, and every kind of bandage, and that the body should lie in a natural easy posture; on the side is perhaps better than on the belly, though that has been recommended, that the stomach might the easier discharge its contents. The breathing should

should not be obstructed, nor the neck lie low, or in a bent position.

* * * *

The annual prize-medal for the year 1780, given by the Harveian Society of Edinburgh, for the encouragement of experimental inquiry, was adjudged to Dr Arthur Broughton, now Physician in Bristol, for his essay on the coagulable lymph of the blood. After the delivery of the Harveian Oration for last year, the subject of which was an account of the life and writings of the late Dr Alexander Monro, the prize was publicly presented to Dr Broughton by Dr Charles Webster, one of the Secretaries to the Society, who, on that occasion, addressed the audience in the following terms :

GENTLEMEN,

The object of this annual meeting is not only to commemorate the illustrious dead, but to confer the rewards of genius on the living. Establishments thus friendly to emulation almost universally prevail. They have given birth to some of the most brilliant discoveries ; the first names in philosophy and the arts have honoured them by their competition ;
and

and from them the happiest effects have redounded to every department of science.

Of the utility of the present institution, another proof is now added to those formerly given by a Stevens and a Darwin. The prize for the question announced last year, is adjudged to a gentleman already distinguished in the line of experiment. In his review of former tests between mucous and purulent expectoration, he has discovered fallacies hitherto undetected, and pointed out a criterion which appears to be equally simple and just.

In the present essay, he has given a clear and concise detail of every thing relating to the coagulable lymph of the blood, and a demonstration of the increase of that substance in inflammatory disease. He has likewise formed some probable conjectures of the cause of this increase, and drawn several inferences useful in the practice of physic.

It is therefore with much satisfaction I now deliver to him this medal, with the works of the illustrious Harvey; and I sincerely wish, that future competitors may do equal honour to the institution.

The subject of the blood does not appear to be yet exhausted. Controversies respecting its
parts

parts still subsist. It is a fluid of such importance in the animal œconomy, that every remaining doubt concerning it must be matter of regret.

The inquiry, therefore, of this year, is into the nature and ingredients of the serum. The saline matter which this contains, is still the subject of dispute. Whether its viscid part be coagulable lymph dissolved in the serosity, requires demonstration; and the existence of mucus in it, does not seem to be ascertained. Closely connected with this investigation, is the theory of purulence. The experiments of Pringle and Gaber have of late been much controverted: so that, in every view, the field for inquiry is considerable; and will, I hope, fully repay the labour bestowed.

No arguments, surely, are necessary at this day to recommend experimental pursuit. No one is now ignorant, that it is the only road to genuine science; and that nothing is entitled to the denomination of philosophy, which rests not on this foundation. Had it not been that taste for experiment, so happily introduced by the immortal Bacon, and since so successfully cultivated, we might have still been dragging the car of Aristotle, still toiling in the trammels of the schools.

Though

Though even random experiment may have sometimes struck out truths of moment, yet a fund of knowledge, and a collected attention, are certainly the surest guides, not only to bare discovery, but to principles of extensive application. The leaves of trees had been falling unheeded from the beginning of the world: it was the attentive eye and comprehensive mind of Newton alone that could seize this common appearance, and from it explain the constitution of the universe.

Indeed the very habit of experiment tends to awaken and improve those faculties of the mind on which success most generally depends. It begets attention, rivets knowledge, and expands the powers of comprehension.

Allow me then, Gentlemen, to recommend such pursuits to your zealous regard. They are peculiarly adapted to that quickness of perception, which those of your years so commonly enjoy. Once begun, they will recommend themselves to your own feelings. By no other method can you more effectually serve the interests of humanity and your profession; by none so assuredly hope for the reputation of a Harvey or a Monro.

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The following extracts are made from the Programme de la Societé Hollandoise des Sciences, établié à Harlem, for the year 1780.

As some philosophers are of opinion, that the elastic fluids which penetrate different bodies in one way or another, are so many different species of air, while others are of an opposite opinion; and as it is of importance to determine this point, the Society proposes the following question.

Quelles sont les espèces vraiment différentes des fluides, qui paroissent être de l'air, auxquelles on a donné les noms " d'air fixé, air dephlogisté, air inflammable, air nitreux, " air acide, air alkalin, &c. ?" Quelles sont leurs différences reciproques, et en quoi different-ils de l'air atmospherique? 2. Chacun de ces espèces de fluides elastiques, a-t-elle assez de rapport avec l'air de l'atmosphere, pour qu'on la puisse croire une espèce d'air? 3. Jusqu'à quel point peut-on determiner " la nature de l'air atmospherique" par les experiences et les observations faites avec ces fluides?

Memoirs on this subject must be transmitted to the Society by the first of January 1782.

By the same period also, the Society requires that dissertations should be transmitted to them on the following subject.

Quels sont les objets de l'Histoire Naturelle des Provinces Uniës, au sujet desquels on ait lieu de se flatter, que des recherches plus exactes pourront procurer quelque utilité à notre Patrie et à la Societé humaine?

Answers to the following question are expected by the beginning of the year 1784.

Est-il, outre le Caffé, le Sucre, le Cacao, et le Coton, quelques autres Plantes, Arbres ou Vegetaux, qui puissent être cultivés dans nos Colonies des Indes Occidentales, et qui soient propres à servir d'aliments, ou d'un usage utile pour les Manufactures et les Fabriques de ce Pais? Les Essais, qu'on a fait, il y a quelques années sur " l'Indigo," ont prouvé que sa culture nuit à la Santé des Nigres; mais en a-t-on fait, ou pourroit-on en faire sur d'autres Vegetaux, et quels sont-ils?

* * * *

The following experiments made by Mr John Scott, chemist in Edinburgh, point out

a new method of combining some metallic substances with the acetous acid, by means of double elective attraction.

EXPERIMENT I.

To a weak solution of mercury in the nitrous acid was added a solution of regenerated tartar. A very beautiful pearl-coloured precipitate immediately fell to the bottom. This precipitate is a combination of mercury with the acetous acid. This experiment has a very amusing appearance, as the precipitated mercurial salt is exactly like pearls in coarse powder; which appearance it does not lose if dried with care.

In this experiment, the nitrous acid leaves the mercury to unite with the fixed alkali in the regenerated tartar; while the acetous acid and mercury, left at liberty, unite together.

The acetous mercurial salt is not so disagreeable to the taste as the other saline preparations of mercury, and probably may be more agreeable to the stomach. Mr Scott has often used it with success in venereal cases as an alterative. A large proportion of water is required to dissolve it. This method of combining mercury with the acetous acid, is, in

Mr Scott's opinion, much more easy than that recommended by Mr Macquer, of first dissolving the mercury in the nitrous acid, then precipitating it with a fixed alkali, and afterwards boiling the precipitate in vinegar. A solution of sugar of lead may be used instead of regenerated tartar, but for medicinal use the latter is preferable.

EXPERIMENT II.

A solution of bismuth in the nitrous acid produced a precipitate nearly resembling that of mercury, when mixed with a solution of regenerated tartar.

EXPERIMENT III.

A solution of silver, when added either to a solution of regenerated tartar or sugar of lead, produced an appearance of the same kind; but with this difference, the lunar salt resembled small needles, while the other two appeared as small shining pearl-plates.

EXPERIMENT IV.

When a solution of tin in aquafortis was added to a solution of regenerated tartar, a large quantity of a shining precipitate fell down, which was the tin combined with the
acetous

acetous acid. This method of making the salt of tin with the acetous acid, is much easier than the tedious and expensive process recommended by Dr Lewis in the new Dispensatory.

EXPERIMENT V.

When a solution of gold was mixed with a solution of regenerated tartar, no change was produced or precipitation formed, owing to the solar acetous salt being very soluble in water.

These experiments Mr Scott has been in the practice of shewing in his course of Pharmacy for several years past.

* * * *

On the 23d of September 1780, died Mr John Williamson, principal Gardener in the Botanical Garden of Edinburgh. Great knowledge of his profession, singular diligence, and amiable manners, made his death universally regretted, and considered as a public loss.

* * * *

Dr Charles Webster of Edinburgh, has lately been elected a member of the Royal Society of Medicine of Paris.

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The whole Works of the late Dr Alexander Monro, collected in one volume, which we mentioned formerly, is now nearly printed off, and will be published in a few weeks. This work not only contains corrections and enlargements of the former publications in many different places, but also several papers which have never before been published. Besides copperplates illustrating instruments, morbid appearances, &c. it will be adorned with an elegantly engraved head of the author, by Mr Baffire of London, from a painting by Allan Ramsay, Esq.

* * * *

Dr Matthew Dobson, well known to the learned world by many useful and ingenious publications, after having, for the space of near 20 years, practised medicine at Liverpool with great reputation and success, has removed from thence to the city of Bath.

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The following extract of a letter to Dr Duncan, from Patrick Wilson, M. A. son to Dr Wilson, Professor of Astronomy in the university

versity of Glasgow, gives a remarkable instance of the instinct of a dog.

Having just now some leisure time, I sit down to give you an account of a *self-preserving instinct* in the case of a dog, which perhaps may be thought remarkable. He is of a breed between the rough water spaniel and the common pointer; very docile and sagacious; has dark brown curled hair, long shaggy ears, and a fine nap, and was then about three years and a half old.

Nothing seemed to ail him, till one night, after the family were in bed, he was heard very restless in the stair-case, and making an incessant noise, as if trying to force up something from his stomach or throat. When he had gone on in this way for near an hour, I heard my brother, who slept in the first floor, open his room-door and go down to the kitchen to see what was the matter. After staying some time, he returned and called to me, that he could not imagine what ailed the beast, but that he seemed to be very bad. Not long after, the dog came up stairs again, making the same noise as before, but louder, and more frequently. Upon his return down again, I got up and followed him with a light-

ed candle to the kitchen, where at first he seemed to shun me by going into a dark closet, and lying down upon some old cloaths. In this situation I found him upon looking in, and I saw too that his eyes were inflamed and watery. He also foamed a little at the under jaw, and struggled with a continued panting and suppressed cough; and he used his tongue perpetually as if lapping at some food or drink.

The servant acquainting me, that when my brother was down he had offered the dog water, and then milk, without his minding either; I imagined he had got a chicken or fish-bone in his throat; and, from this view, I got him some hard toasted oaten cakes, thinking, that on his swallowing some morsels of it the bone might be carried down. After taking two or three pieces voraciously, he got to his feet, and run straight to the grate, under which he snuffed greedily among the ashes, and, to my astonishment, licked up and swallowed all the small cinders he could find by the candle light, and then gropped busily with his paws for a new supply.

I was much at a loss what to think of this strange sort of appetite, and believed that the creature,

creature, who all the while seemed quite indifferent and insensible to every thing about him, was impelled by mere anguish and distraction. But continuing to look at him attentively, I at last suspected, that what he was employed about, fell somehow or other within the range of his instinct. Upon observing that now and then he shook his tail, I now left him and went to bed, when presently he began his wanderings again. He made the same noise as before, and far louder, at one time uttering a bellow very nearly as loud as a bull. Soon after this, being two hours past midnight, he became quieter, and in a little was no more heard.

In the morning we expected to have found him dead ; but, about half past eight, he came down from one of his couches in the garret seemingly quite well. What was now discovered strewed in many places of the low passage, and in the stair-case, sufficiently explained the wonder of his swallowing the cinders. It was a matter which consisted of short hair, and which had every mark of having been voided in the way of excrement ; and in the middle of every nodule there was found a cinder. When this stuff was put altogether,

together, it was nearly as large as one's two fists; and, before the creature had taken the strong dose above mentioned, it had probably lain in the stomach as an entire lump, which would neither be disgorged or pushed downwards. Upon his following my brother to the garden before breakfast, he pursued his cure, by eating very greedily of any kind of grass he could find, and became perfectly well.

This happened at the time of the year when the country people first bring in the hares to town. Our own servants had often remarked, that the dog was voraciously fond of the fresh bloody skins; and, for that reason, were commonly careful to put them out of his way. But, on this occasion, there is room for believing, that either in our own back ground, or in that of some of our neighbours, he had made a hasty meal of this sort, and swallowed the skin with the hair upon it. I may also mention, that when my brother first went down, he observed much the same appearances as those I have described; and also that he then greedily licked up the cinders.

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The following remarks on the Sigaultian Operation, are extracted from a letter to Dr Duncan, by Dr J. H. Myers of London, written from Paris.

I quitted England with every possible prejudice against this operation, from the influence the opinion of my teachers had on me. But I am at present "*nullius addictus jurare in verba magistri.*" I have seen the operation twice performed with every possible success. The last patient, while I write, is in the room, coming to shew herself in justice to her operator. It is only eighteen days since the operation was performed, and she is in perfect health, by no means injured by the operation. Her former child was extracted by the forceps, the impossibility of her being delivered in the natural way was agreed on in the presence of several ingenious men in the medical line. The child was delivered by means of this operation, and we were sorry to find, dead; the umbilical cord was twice twisted round the neck of the foetus; and that part which was round the neck was white, and had the appearance of a ligament, the blood being regurgitated

gurgitated in that part of the cord towards the child. The child's face was extremely red, and it is probable, from the efforts the foetus must have made, that it died apoplectic. This you will evidently observe depended not on the operation, but happens every day in natural deliveries.

Where there is a physical impossibility to deliver a woman naturally, the obstetrical art has only offered us, till this ingenious discovery, the Cæsarian operation. In spite of the success this operation has met with, the greatest advocates for it cannot but acknowledge the misfortunes that have almost always attended the wretched that have had the courage to submit to it ; these dangers alone have been sufficient to intimidate the most skilful hand : How little surprising is it then, so few are willing to submit to it, considering how few practitioners will venture to undertake it? In these circumstances, the manœuvres used, the instrument being even in the hand of the most skilful, tend only to kill the child *dans le corps d'une femme vivante*, to extract it with violence, or to bring it away piece-meal, after having exposed the mother (if she yet exists) to the most horrid torments, as well as the

the most mortifying disappointment. From such dreadful circumstances, and from the want of an operation better calculated to meet with success, the country has been deprived of many a subject, and many a family of their only hopes. How useful, then, such an operation, which tends to alleviate these misfortunes? How valuable such a man, who, by application and genius, discovers the means to render mankind less miserable, and adds to the riches of his country, by the preservation of individuals?

I shall attempt to describe to you, as clear as I am able, the method of performing this operation, as practised by the inventor. The woman being placed in such a position as is convenient, and other necessary precautions being taken, the common teguments of the abdomen, above the pubis, must be stretched by means of the thumb and finger of the left hand; the dissection is then made with the other, by means of an instrument much like our scalpel. The common teguments and adeps being cut from the superior part of the symphysis, “*usque ad magnorum commissuram labiorum pudendorum*,” an operation by no means very painful, the symphy-

sis

sis then becomes exposed. A scalpel somewhat lenticular, is then to be made use of, after the division of the pyramidal muscles and linea alba. Into this aperture, the *index* of the left hand is to be introduced, and the section of the ligament and cartilage is to be continued: The moment the division is made, there is an enlargement of the pelvis, I venture to say, to any extent desired; the last I saw was three inches, accurately measured by an instrument called *pelvimetre*, contrived by Mr Trainel.

The child presenting the head, the delivery happens in an instant, with such quickness that it resembles an explosion: The child presenting in any other manner, the feet are to be sought for in the ordinary way, directing always the great diameter of the head towards the great diameter of the basin. The wound is then to be filled with tow, and covered with a narrow fourfold bandage. This is fixed by a large piece of linen fastened about the groin, with small bandages cut from the same, or sewed to it, to keep it tight. The ends of this piece of linen are to be divided, crossed over the symphysis, to form what is called by surgeons here, *le bandage unissant*; the

the patient's linen is to be changed, and she is to be put to bed, well furnished with napkins doubled, and lint, &c. to absorb the moisture; these may be removed or renewed without inconvenience; a hollow is to be made in the bed, where the linen is placed, to correspond with the basin; a slight bandage is to be passed crossways about the knees, at a proper distance, to prevent their separation; the head and back are to be somewhat raised by pillows that do not yield too much. In the following dressings, the greatest cleanliness is to be observed: To prevent any clot of blood remaining in the wound, it is to be syringed two or three times; nothing else is to be used for the cure of the wound, but a pledget dipped *daily* into the whites of eggs, beat up with brandy. A proper attention to regimen, in the largest sense, is necessary. Glysters are to be given occasionally. The mother may nurse her child. With these, and other necessary attentions, the patient may be taken out of bed at the end of a fortnight, the union being then generally completed.

The length of the incision does not exceed three inches, and the operation does not last
five

five minutes. Compare that with the cruelty of the Cæſarian operation, a wound of above nine inches, the viſcera uncovered ; in ſhort, the more I reflect, the more I congratulate myſelf in the happineſs of having been eye-witneſs of one and the other. On the continent, this operation has been tried with equal ſucceſs, at different places : At Mons three or four times ; by Dr Camper, in Holland, once or twice. Several others have alſo performed this operation with every ſucceſs poſſible. I hope it will ſoon be tried in Britain, where the ſpirit of emulation, and the deſire of ſerving ſociety, is ſo remarkable. The inſtance I mentioned to you in my laſt, of a wretch, not thirty inches high, producing a child of twenty inches, by means of this operation, leaves no doubt of the poſſibility of delivering a woman in any circumſtance.

The diſſection of this woman, who died of a gangrene in the region of the ileum, diſcovered the amazing mal-conformation of the pelvis, which I meaſured, and is ſtill in the poſſeſſion of Dr Sigault. That the head of a child ſhould have paſſed a baſon not two inches diameter, and otherwiſe horridly deformed, without any laceration being produced, or
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the flightest mark of contusion on the cranium, or the least force being used, compared with the force used by *accoucheurs*, in delivering by means of the feet, or by means of the forceps, is a discovery no less surprising than important.

This is then the idea to be formed of this delivery. A mother so prodigiously deformed, as always to be obliged to use crutches, bent almost double, carries a child of two-thirds her size. The distension of the uterus must have been amazing, and the mal-conformation of the left side of the basin must have been the cause of the pains she felt before delivery, and the cause of her death. The child being strongly compressed on all sides, scarcely could vegetate in the uterus, which might have contributed to its death. On the whole, I think this subject proves sufficiently to what extent the advantages of this operation may be carried. I think nature, in some measure, marks the way to this operation, since, in difficult deliveries, there often happens a relaxation of the teguments of the pelvis, and even sometimes a laceration.

The *objects* of this operation are, to augment the capacity of the pelvis, in the enlargement

of its circle ; to procure *un ecartement* of the os pubis, in dividing the symphysis that unites them ; to procure to the foetus a space sufficient for its passage ; to mitigate the cruel pains of the mother, and to preserve the life of one and the other ; objects, I think, of the utmost importance.

* * * *

The following account of some experiments, made by the late ingenious Mr Buquet of Paris, on a celebrated quack medicine sold in that city, are extracted from a letter written to Dr Duncan, from Paris, by Dr Dennis Ryan.

As you may not have already seen it, I shall send you an extract from a small publication, which has been given out here some time ago, by Mr Buquet, Doctor of the Faculty, and Professor of Chemistry at the school of medicine, justly remarkable for uncommon merit. It contains the substance of his opinion, and that of Mons. d'Arcet, Professor of Chemistry at the Royal College, with respect to a quack medicine, called Rob Antisyphilitique, with which the inventor, Sieur l'Affecteur, boasted he could cure the most inveterate

rate

rate venereal cafes, without having employed a grain of mercury.

Monf. Poffonier, late Profeflor of the practice in the Royal College, and Doctor of the Faculty, was appointed by the Royal Society to attend to the effects of this medicine. Observing that the moft violent venereal fymptoms difappeared from its ufe, he fufpected that it muft have contained fome mercury. In order to be fet right in this fufpicion, he gave a bottle of it to be examined by Mr Buquet.

This able chemift obferved, that in fmell and tafte it refembled honey, charged with the extract of fome plants. To determine its conftituent parts, he made the following trials.

1^{ft}, He expofed it to the action of fire in a clofe veffel ; the refiduum caufed no whitenefs on the furface of gold on which it was rubbed.

2^{dly}, Mixed with lixivium of falt of tartar, or a folution of volatile alkali, it yielded no mercurial precipitate.

3^{dly}, After adding to it fome drops of aqua-fortis, he dipped into the mixture a plate of copper, which did not grow white from thence.

Thefe experiments were repeated by Monf. d'Arcet, and with the fame effects ; and

would naturally seem to lead to the conclusion, that mercury does not enter the composition of the Rob Antisyphilitique.

Mr Buquet, however, was still inclined to think that there was reason to presume that it did contain mercury; and that the difficulty of disengaging it, arose from its being combined with the mucous saccharine matter of the composition. He therefore again submitted fresh quantities of the medicine to new experiments, after having mixed it with some distilled water. After filtration, he exposed a quantity of it in a retort to the heat of a reverberating furnace; what was thus obtained, was submitted to other trials of the same kind, as above described in No. 1st, 2d, and 3d.

Next, Mr Buquet, after mixing eight ounces of melasses with an equal quantity of distilled water, added thereto two grains of corrosive sublimate. This solution he tried by the same experiments which had before been made with the Rob Antisyphilitique. But neither by these, nor by the addition of acids, could he discover the least sign of the presence of mercury. He then substituted mel mercurialis for the melasses, and made a solution

tion of corrosive sublimate as before. This solution shewed no sign of the presence of mercury, after being exposed to the action of fire, or when a plate of copper was dipped in it. But when a lixivium of salt of tartar was added to some of it, a precipitate was obtained, which, when rubbed on gold, slightly whitened its surface.

From these different experiments, he drew the following conclusions.

1. That the lixivium of salt of tartar is the most proper means for discovering the presence of mercury.

2. That mucous saccharine substances, especially honey, or syrups of the extract of plants well boiled, are the best means for concealing corrosive sublimate, and for entirely destroying its very nauseous and disagreeable taste.

The Antisyphilitique Rob has been given to the extent of eight ounces a-day; which quantity, Mr Buquet supposes, may contain from half a grain to three quarters of a grain of the corrosive.

May not these experiments lead the way to a commodious and agreeable method of curing syphilis, if it were but determined by proper trials, that corrosive sublimate combi-

ned with fyrups, poffeffes the powers of mercury, and is not thereby rendered inactive ?

* * * *

The following fhort view of fome chemical difcoveries, which have lately been made in Sweden, is extracted from a letter to Dr Duncan, from Dr Henry Ghan, Phyfician at Stockholm.

“ Some chemical difcoveries have lately been made, fuch as, that magnesia nigra is reducible to a new femi-metal ; and that the marmor metallicum, or heavy fpar, is a compound of vitriolic acid, and a new fpecies of earth, whose attraction to the vitriolic acid is very great. Both thefe have been made by my brother. That urinary ftones moftly contain the acidum facchari, by Mr Bergman. A new method of making mercurius dulcis, via humida. A new green colour of particular durability ; fome particular attractions of magnesia nigra to different acids. The properties and nature of molybdenum, or black lead. The properties of arfenic, which is a fulphur that has a metallic colour, confifting of an acid fui generis, and phlogifton. Thefe, and fome others, are difcovered by the ingenious Mr Scheele. But all of them are written
in

in the Swedish language, and too long for me to translate."

* * * *

We mentioned formerly, that a building had been begun at Edinburgh, for the use of the Public Dispensary of that place. It is with pleasure we can inform our readers, that this building is now so far advanced, as to be already opened for the purposes of the institution. The Managers of this charity have been enabled to make so much progress in this undertaking, in consequence of having received aid, not only from benevolent inhabitants of Edinburgh, but from medical practitioners in many different parts of the British dominions, who consider it as an object of importance to the Public, that the students of medicine at Edinburgh should enjoy as many opportunities as the nature of the place can afford, of studying diseases from nature, as well as from books; and of being the witnesses of actual practice, as conducted by different practitioners.

The same motives which have already induced many to contribute to this undertaking, will, it is presumed, operate with others. And although farther assistance from the public be

still wanting for finishing the plan ; yet there is room to hope, that the present managers will soon be enabled to complete what has been so successfully begun by their predecessors.

* * * *

On Monday the 7th of May, Dr Duncan and Dr Webster, physicians to the Public Dispensary of Edinburgh, will begin their summer course of lectures on the cases of patients treated at that charitable institution.

* * * *

We mentioned formerly, that Dr Monro, the present Professor of Anatomy at Edinburgh, was engaged in publishing the whole works of his father, collected in one volume ; and to all that had formerly appeared, several pieces were to be added, which had never before been printed. This work has now appeared, and for the title of it, we may refer our readers to the list of new publications. But a more distinct view of the additions may be had from the Editor's advertisement, in which he expresses himself in the following terms.

“ I flatter myself, that this collection of the works of my father, will not only prove acceptable to his pupils and friends, but useful

ful to the public. Many of them treat of practical subjects, and, in all, some application to practice is pointed out.

“ To the works printed under his own inspection, I have added two pieces.

“ The first is an oration *De cuticula humana*, delivered by him above forty years ago, in the common hall of the university of Edinburgh, in which many curious circumstances are described, which had escaped the observation of former anatomists; particularly the appearance of the fibres which connect the cuticula to the cutis vera, which, since that, have been annually demonstrated in the anatomical theatre at this place.

“ The other piece is an essay on comparative anatomy, composed from notes taken from his lectures, and published at London in the year 1744. But as this essay was published without his consent or knowledge, and as many errors had crept into it, I have endeavoured to correct these, and have made a few additions to it, from observations collected by himself, with a view to a larger work on that subject.

“ To the whole are prefixed an engraving, executed by Mr Baffire, from an excellent
 portrait

portrait of my father, by Allan Ramsay, Esq; and an account of his life, composed by my brother Dr Donald Monro, Physician in London.”

* * * *

A pamphlet has lately been brought to this country, printed at New York, on a subject of such importance, at the present period, as to recommend it to the attention of all who have any concern with the Navy, or indeed with maritime affairs. It is entitled, A short Account of the most effectual Means of Preserving the Health of Seamen. This treatise is written by Dr Gilbert Blane, Physician to the fleet under Sir George Rodney, and is dated, Sandwich, off Antigua, 21st August 1780.

The sole object of this treatise, is to exhibit a concise view of the means by which disease may be prevented. The learned observant, and ingenious author, goes so far as to assert his firm persuasion, that by a proper degree of attention we might almost entirely extirpate from the Navy some of those diseases which are there most fatal. The diseases, of the prevention of which he particularly treats, are fevers, fluxes, and scurvy. We shall present

sent our readers, at a future period, with some account of the directions given with respect to each. Meanwhile, however, we thought it would not be unacceptable to them, that we should thus announce a treatise on a subject of such importance, that every suggestion with respect to it cannot be too warmly recommended to the attention of those whom it especially concerns.

* * * *

Mr Alexander Hamilton, whose genius and industry are already well known to the medical world, by different publications on the subject of midwifery, has lately been elected conjunct professor of midwifery, in the university of Edinburgh, with Dr Thomas Young, who has, for many years, taught that branch of medicine at Edinburgh, with no less credit to himself, than advantage to the public. These gentlemen, we hear, propose to teach alternately, the one beginning a course when the other finishes. The industrious student will thus be furnished with a ready opportunity of hearing and examining the sentiments of different teachers on the same subject; a circumstance which must, in a peculiar manner, tend to his improvement.

The

* * * *

The Harveian Society, at Edinburgh, instituted with the views of commemorating the illustrious dead, and of encouraging discovery by experiments among the living, have proposed as the subject of their annual prize for the year 1781, An experimental inquiry concerning the nature and properties of the bile.

* * * *

Dr Samuel Foart Simmons, Fellow of the Royal Society of London, and of the Royal Medical Society of Paris, was elected President of the Medical Society of London, at their anniversary meeting in January 1781. On that occasion, Dr Simmons delivered a Latin oration, on the best method of prosecuting medical inquiries. As the subject is of the utmost importance, and as the author's abilities are well known, it is to be hoped that he will favour the public with this, as he has already done with several other ingenious and useful productions.

* * * *

On the 26th of December 1780, Dr John Fothergill, a member of many learned societies, and author of many valuable publications,
died

died in London. In the line of his profession, Dr Fothergill was no less distinguished for extensive and successful practice, than for zeal and attention in the improvement of the healing art. As a man, he was remarkable for one of the most shining virtues that can adorn the human character, unbounded benevolence.

* * * *

Dr William Lewis, author of an experimental history of the Materia Medica, and of the New Dispensatory, works which are in the hands of every practitioner, and from which their author has deservedly acquired very high reputation, died at Kingston upon Thames, on the 19th of January 1781.

S E C T.

S E C T. IV.

List of New Books.

EXPERIMENTS upon vegetables; discovering their general power of purifying the common air in the sun-shine, and of injuring it in the shade, and at night. By John Ingenhoufz, M. D. 8vo. London.

Philosophical Transactions of the Royal Society of London. Vol. LXVIII. for the year 1778. Part II. 4to. London.

An answer to Baron Dimsdale's review of Dr Lettsom's observations on the Baron's remarks respecting a letter on general inoculation. By John Coakley Lettsom, M. D. F. R. S. and S. A. 8vo. London.

Considerations

Considerations on the propriety of a plan for inoculating the poor of London at their own houses. 8vo. London.

An inquiry into the origin of the gout. By John Scott, M. D. 8vo. London.

An introduction to the theory and practice of surgery. By William Dease. Vol. I. 8vo. London.

Thoughts on amputation; being a supplement to the letters on compound fractures, and a comment on Dr Bilguer's book on this operation. To which is added, A short essay on the use of opium in mortifications. By T. Kirkland, M. D. 8vo. London.

Philosophical observations on the senses of vision and hearing. To which is added, A treatise on harmonic sounds, and an essay on combustion and animal heat. By J. Elliot. 8vo. London.

The anatomy of the human body. Vol. I. By Samuel Foart Simmons, M. D. 8vo. London.

Practical observations on the treatment of consumptions. By Samuel Foart Simmons, M. D. 8vo. London.

Reports of the Humane Society for the recovery of persons apparently drowned. For the year 1778. 8vo. London.

Clinical experiments, histories, and dissections. By Francis Home, M. D. one of his Majesty's Physicians, Fellow of the Royal College of Physicians at Edinburgh, and Professor of Materia Medica in the University of Edinburgh. 8vo. Edinburgh.

Conspectus medicinæ theoreticæ, in usum academicum. Auctore Jacobo Gregory, M. D. Med. Theoret. in Acad. Edin. Prof. &c. 8vo. Edinburgi.

Differtation sur l'organe de l'ouïe, 1^o, de l'homme ; 2^o, des reptiles ; 3^o, des poissons. Par M. Geoffroy, Docteur Regent de la Faculté de Medecine, & Membre de la Société Royale de Medecine. 8vo. Amsterdam.

Medecine ; ou, Traité des maladies, tant internes qu'externes, auxquelles les militaires sont exposés dans leur différentes positions de paix et de guerre. Par ordre du gouvernement. 8vo. Paris.

Le parfait boulanger ; ou, Traité complet sur la fabrication et le commerce du pain. Par M. Parmentier, Pensionnaire de l'Hotel Royal des Invalides, Membre du College de Pharmacie de Paris, de l'Academie des Sciences de Rouen, &c. 8vo. Paris.

Observations

Observations sur differens moyens propres à combattre les fievres putrides et malignes, & à preserver de leur contagion. Par M. I. B. D. M. 8vo. Amsterdamb.

Examen des faits relatifs à l'operation de la symphyse, pratiquée à Arras. Par M. Retz, Docteur en Medecine, & M. Louis Lescarde, Maître en Chirurgie. 12mo. Paris.

Dangers du maillot & du lait de femme ; moyen d'y remedier ; avis aux meres. Par M. Lascazes de Compagne, Medecin de l'Isle d'Alby, Docteur du Ludovicée de Montpellier. 12mo. Paris.

Guerison de la paralysie par l'électricité. Ouvrage dedié à M. le Marechal Duc de Noailles. Par M. l'Abbé Sans, Chanoine, Professeur-Doyen de Philosophie en l'Université de Perpignan. 12mo. Paris.

La naturisme ; ou, la nature considérée dans les maladies & leur traitement, conforme à la doctrine & à la pratique d'Hippocrate & de ses sectateurs ; ouvrage qui a remportée le prix de l'Academie des Sciences, Arts, & Belles lettres de Dijon, sur la Medecine agissante & expectante ; le 18 Août 1776. Par M. Planchon, Licencié en Medecine de l'Université de Louvain. 8vo. Paris.

Eloge historique d'Albert de Haller, Conseiller d'Etat & Medecin du Roi de la Grande Bretagne, Membre des Academies Royales des Sciences de Paris, de Londres, de Berlin, de Stockholm, &c. 8vo. Paris.

Medicinæ praxeos systema, ex academia Edinburgenæ disputationibus inauguralibus præcipue depromptum, et secundum naturæ ordinem digestum. Curante Carolo Webster, Valetudinariii publici Edin. Med. alter. e Coll. Reg. Med. & Societ. Reg. Med. Edin. hujusque ad acta edenda a secretis. In duobus tomis. 8vo. Edinburgi.

Some observations relative to the influence of climate on vegetable and animal bodies. By Alexander Wilson, M. D. 8vo. London.

Philosophical Transactions of the Royal Society of London. Vol. LXIX. Part I. For the year 1779. 8vo. London.

An account of the life and writings of the late Alexander Monro, *sen.* M. D. F. R. S. delivered as the Harveian oration at Edinburgh, for the year 1780, by Andrew Duncan, M. D. Member of the Royal Societies of Medicine of Paris, Copenhagen, and Edinburgh. 8vo. Edinburgh.

An

An account of the methods pursued in the treatment of cancerous and scirrhous disorders, and other indurations. By J. O. Justamond, F. R. S. 8vo. London.

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An answer to a letter, addressed by Francis Riollay, physician of Newbury, to James Hardy, physician of Barnstaple. 8vo. London.

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Experiments and observations made with the view of improving the art of composing and applying calcareous cements, and of preparing quicklime, &c. By Bry. Higgins, M. D. 8vo. London.

Some observations on the origin, progress, and method of treating the atrabilious temperament and gout. 8vo. London.

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Specimen inaugurale de spiritu ardente ex lacte bubulo. Auctore Nicolao Oferetzkowsky. 8vo. Argentorati.

Examen de plusieurs prejugs et ufages abusifs, concernant les femmes enceintes, celles qui font accouchées, et les enfans en bas age. Par M. Saucerrote. 8vo. Strasbourg.

Abrégé de l'histoire naturelle, à l'usage des élèves de l'école royale militaire. 8vo. Paris.

Histoire de l'esquinancie gangreneuse petechiale, qui a regné dans le village de Moivron. Par M. Read, Docteur en Medecine. 8vo. Metz.

Cours elementaire d'education des sourds et muets. Par M. l'Abbé Deschamps, Chapelain de l'Eglise d'Orleans. 8vo. Paris.

Memoires historiques sur la maladie singulier de la veuve Melin, dite la femme aux ongles, lû à la Faculté de Medecine de Paris. 12mo. Paris.

A treatise of midwifery, comprehending the whole management of female complaints, and the treatment of children in early infancy. By Alexander Hamilton, Professor of Midwifery in the University of Edinburgh, and Member of the Royal College of Surgeons. 8vo. Edinburgh.

Observations on the means of preserving the health of foldiers, and of conducting military hospitals; on the diseases incident to
foldiers

foldiers in the time of service; and on the same diseases as they have appeared in London. By Donald Monro, M. D. 2 vols. 8vo. London.

A treatise on the diseases of the eye, and their remedies; to which is prefixed, the anatomy of the eye; the theory of vision; and the several species of imperfect sight. Illustrated with copperplates. By George Chandler, Surgeon. 8vo. London.

Philosophical Transactions of the Royal Society of London. Vol. LXIX. For the year 1779. Part II. 4to. London.

An essay on the theory and practice of medical electricity. By Tiberius Cavallo, F. R. S. 8vo. London.

A complete physico-medical and chirurgical treatise on the human eye, and a demonstration of natural vision. The whole illustrated with a variety of fine engravings, representing the anatomy of the eye, and the instruments necessary for chirurgical disorders. By Peter Degraers, M. D. &c. 4to. London.

Microscopic observations, or Dr Hooke's wonderful discoveries by the microscope. Illustrated by 33 copperplates. Folio. London.

Philosophical Transactions of the Royal Society of London. Vol. LXX. For the year 1780. Part I. 4to. London.

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A treatise on the natural small-pox, with some remarks and observations on inoculation. By Charles Roe, Member of the Incorporation of Surgeons. 8vo. London.

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d'analyse. Par M. le Chevalier de la Marck.
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Discours sur la veritable gloire du chirur-
gien, prononcé aux écoles de medecine, pour
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Grossin du Haume, Professeur actuel de Chi-
rurgie Françoisse, et Medecin de l'Hotel-
Dieu.

Specimen experimentorum naturalium, quæ singulis annis in illustri Pisano Lyceo exhibere solet Carolus Alphonsus Guadagnius, Phil. & Med. Doct. & in eodem Lyceo Phil. Experim. Prof. ord. 4to. Pisis.

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Istoria delle Pleuro-pneumonie putride, che regarono nella terra di Piano. Operetta postuma del Dottor Gio. Pucci, Academico Fisiocritico. 8vo. Firenze.

The works of Alexander Monro, M. D. Fellow of the Royal Society, Fellow of the Royal College of Physicians, and late Professor of Anatomy and Medicine in the University of Edinburgh. Published by his son Alexander Monro, M. D. President of the Royal College of Physicians, and Professor of Medicine, and of Anatomy and Surgery, in the University of Edinburgh: To which is prefixed the Life of the Author. 4to. Edinburgh.

Outlines of the theory and cure of fever, upon plain and rational principles. By John Aitken, Fellow of the Royal College of Surgeons, of the Royal Medical Society; one of the Surgeons of the Royal Infirmary, and Lecturer

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Ge. Gottlob Richter, Medicinæ Doctoris, Magnæ Britanniaë Regis Confiliari Aulici et Archiatri, Medicinæ in Academia Gottingensi Professoris Primarii, Opuscula medica, antehac in academia Gottingensi seorsim edita, nunc vero collecta studio Jo. Christ. Gott. Ackermanni, M. D. Præfatus est Dan. Wilh. Triller, Phil. et Med. Doct. &c. 4to. Francuforti.

Dominici

Dominici Cotunni, Reg. Prim. Anat. Prof.
De ischiade nervosa commentarius novis curis
auctior. 8vo. Neapoli.

Joannis Nathanael Lieberkuhn, M. D. So-
cietat. Scient. Britan. Berolin, &c. Differtatio
anatomico-physiologica de fabrica et actione
villorum intestinorum tenuium hominis, iconi-
bus ære incisis illustrata. 8vo. Lugd. Bat.

Differtationes medicæ inaugurales, quas ex
auctoritate reverendi admodum viri Gulielmi
Robertson, S. S. T. P. Academiæ Edinbur-
genæ Præfecti; nec non amplissimi senatus
academici consensu, et nobilissimæ facultatis
medicæ decreto, pro gradu doctoratus sum-
misque in medicina honoribus et privilegiis
rite et legitime consequendis, eruditorum ex-
amini subjecerunt, ad diem 24um Junii 1780.

Andreas Bain, Britannus, de causis febrium,
et iis denique præcidendis.

Henricus Blake, Hibernus, de hæmorrhoides.

Robertus Buck, Anglus, de ischuria vesicali.

Joannes Caldwell, Hibernicus, de hysteria.

Henricus Cullen, Britannus, de consuetu-
dine.

Robertus Hamilton, Hibernus, de nicotiani
viribus in medicina.

Henricus

Henricus Harris, Hibernus, de morbis virginum.

Trevorus Jones, Cambro-Britannus, de paralyfi.

Gulielmus Moore, Novo-Eboracensis, de bile.

Jacobus Moseley, Anglo-Britannus, de peripneumonia vera.

Eduardus Nugent, Hibernus, de febre nervosa.

Robertus Percival, Hibernus, de corde.

Nicolaus Romaine, Americanus, de puris generatione.

Gulielmus St Clare, Britannus, de variolis inferendis.

Henricus Slaughter, Anglus, de febre puerperali.

Gulielmus Carolus Wells, Britannus, de frigore.

Robertus Willan, Britannus, de jecinoris inflammatione.

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